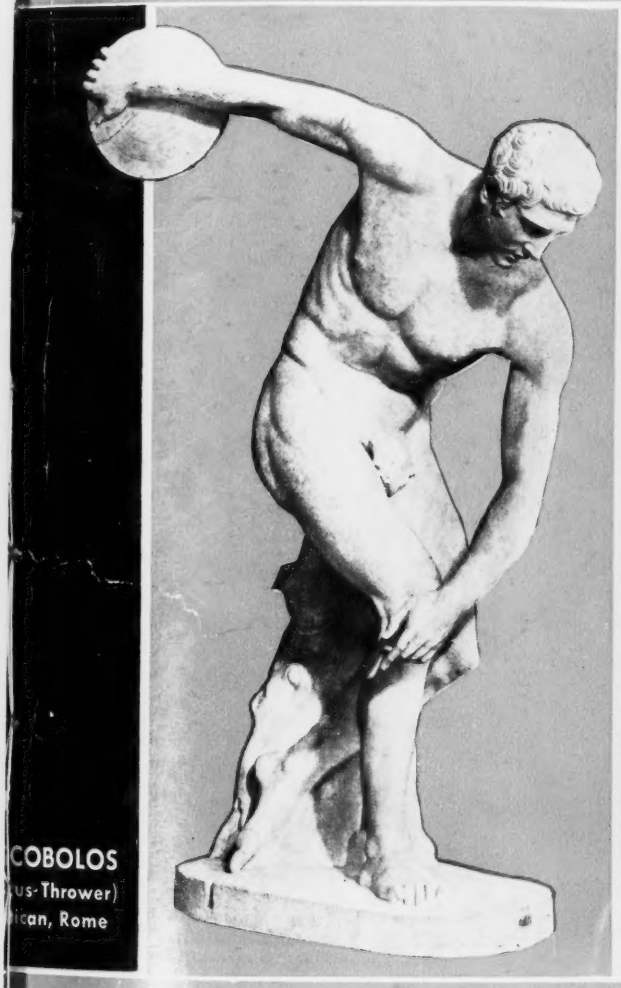
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Soap



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Enduring

QUALITY

WHEN you incorporate Ungerer perfuming materials into any of your Soap products, you are insuring odor persistence. The enduring quality inherent in all Ungerer products guarantees that result. Our strict adherence to these quality standards suggests in many ways the classic sculptory of ancient Grecian times, which was in that age a leading exponent of Enduring Quality.

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and Sanitary Chemicals

MUGANTHEME

by---

Chuit, Naef & Cie



MUGANTHEME is truly the Lily of greatest utility. This modern Muguet base is being used with most pleasing effects and equally good results in perfume extracts, creams, powders of all types and lotions.

The Muguet note in modern perfumery has a much wider application than is generally supposed. It imparts a genuine sweetness and floralcy not otherwise obtainable to all types—florals, bouquets and orientals.

Currently, the decided popularity of floral bases recommends your consideration of Mugantheme. Have you tried it in that new perfume you are studying?

$16.50 per pound

Your Trial Ounce $1.25

Firmenich & Co., Inc.

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CHICAGO OFFICE: 844 NORTH RUSH STREET

For that first CALL of SPRING

DRAIN PIPE CLEANER
AND
TOILET BOWL CLEANER

These dependable "toilet-twins" do that famous "double talk" about fixture stains and stopped drains. And they stand for no back talk.

FULSHINE ALKALI-PROOF CLEANER

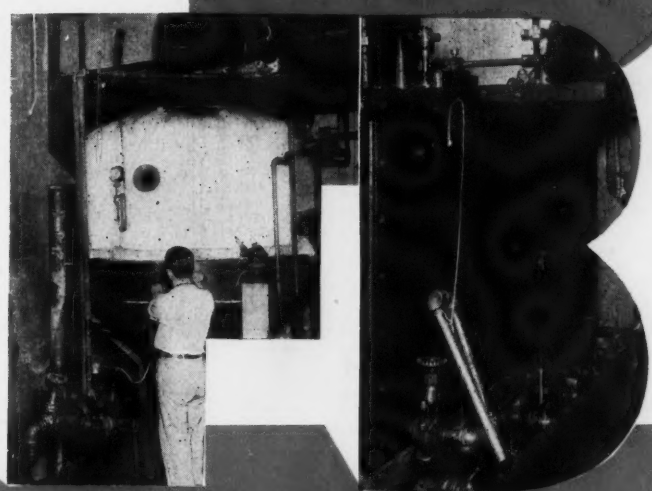
This is the TOUCH neutral cleaner—built to carry a heavy load on any floor. It is so balanced that it even swallows EXTRA alkali without a chaser.

95% ACTIVE INGREDIENT ROACH POWDER

It's had a growing popularity from year to year because its certain results make your users smile from ear to ear.

ALCO Perfumed THEATER SPRAYS

7 order-getting odors now in a choice of 3 concentration ranges of Fuld-made perfumes. Any one will be a treat for your customer and bank night for you.



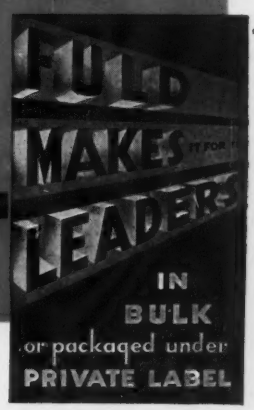
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FLOOR TREATMENTS • CLEANERS • INSECTICIDES

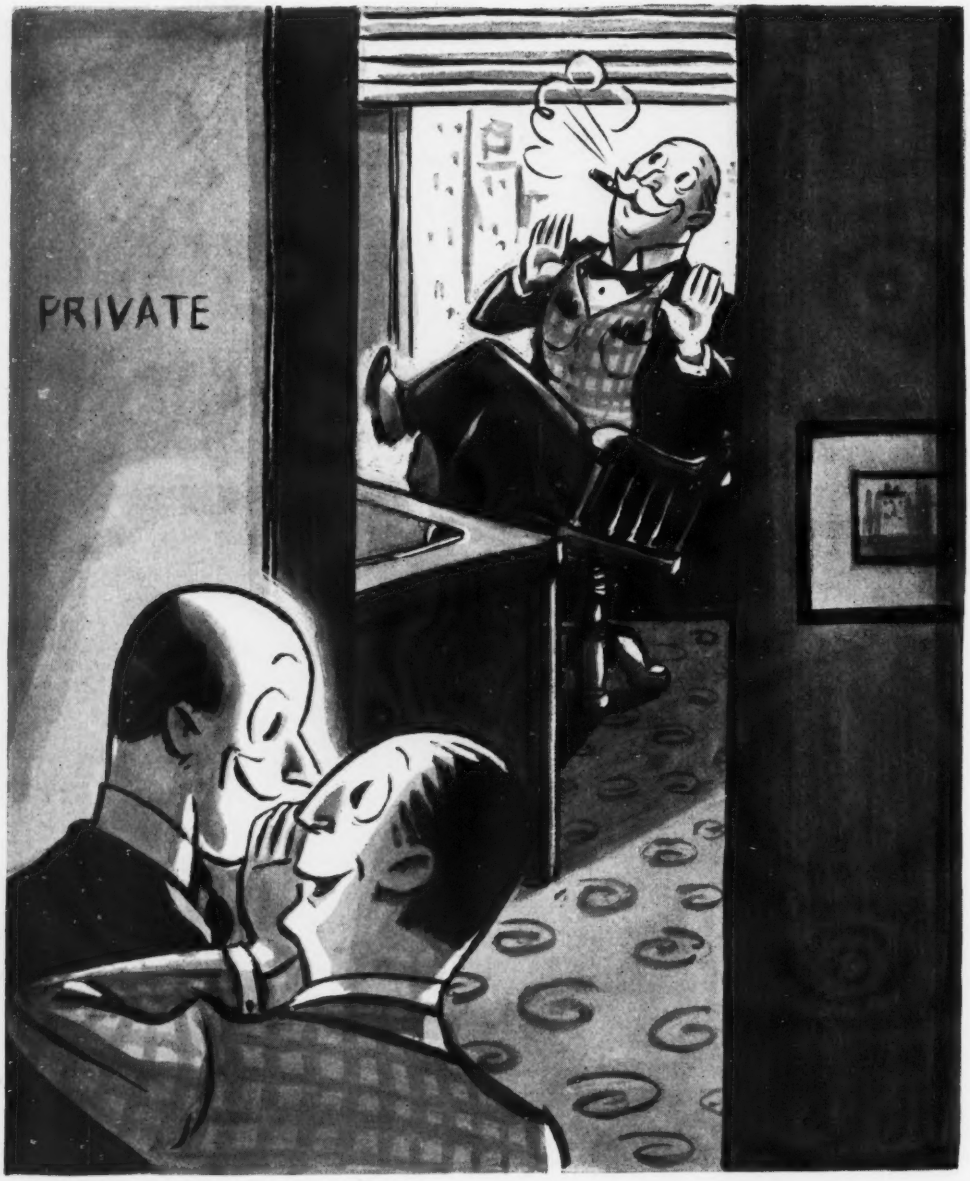
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BALTIMORE

Exclusively to Jobbing Trade





"The boss is in a swell humor. He just bet the P.A. ten bucks that Niagara Alkali was the first in the U.S.A. to produce

Carbonate of Potash"

P.S. Niagara Caustic Soda and Caustic Potash put people in a good humor, too.

Niagara
ALKALI COMPANY
42nd STREET, NEW YORK, N.Y.

Affiliated with Electro Bleaching Gas Co.
Pioneer Manufacturer of Liquid Chlorine

Soap and Sanitary Chemicals

Volume XIV
Number 3

March
1938

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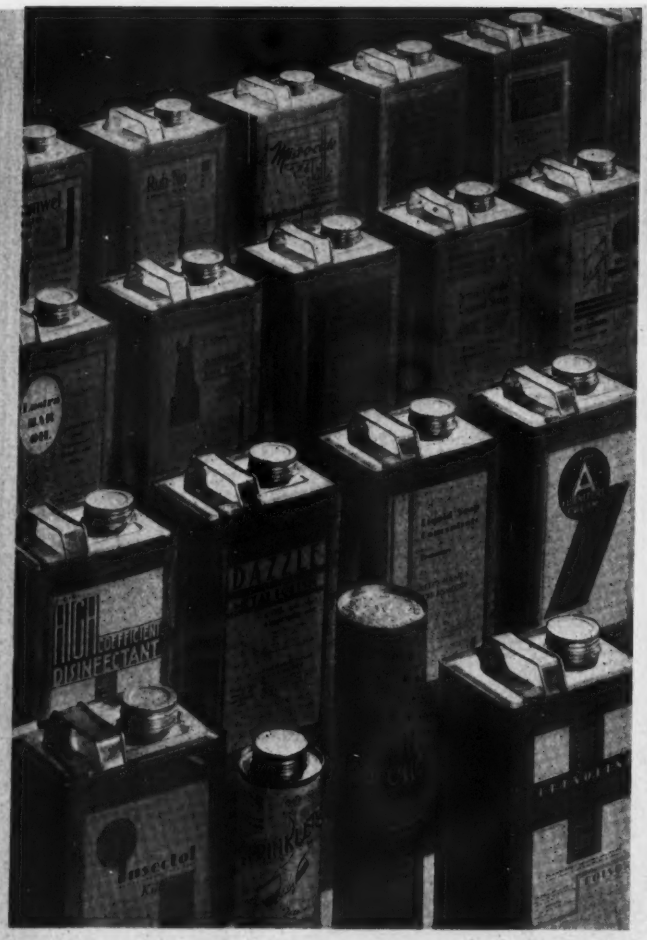
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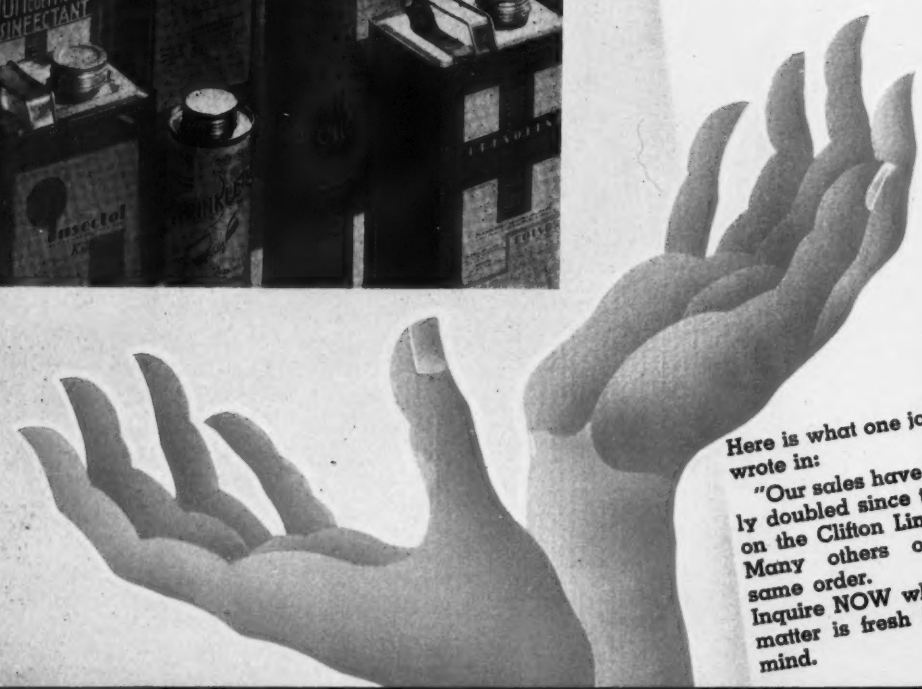
MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

Subscription rate, $3.00 per year. Foreign, including, Canadian, $4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter, Feb. 9, 1938, at Post Office, New York, under act of March 3, 1879. Mail circulation, February, 1938, issue, 3,736 copies. Total distribution, 4,000.



WAITING
to increase your sales

Here is a set up that is 100% in your favor. Labels (with your imprint) that delight the eye, coupled with quality, price and friendly service that is bound to aid your business.



Here is what one jobber wrote in:
"Our sales have nearly doubled since taking on the Clifton Line." Many others on the same order. Inquire NOW while the matter is fresh in your mind.

CLIFTON CHEMICAL CO., INC.
246 FRONT STREET NEW YORK, N. Y.

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CLIFTON CHEMICAL CO., 246 Front St., New York City.
We are interested. Without obligation send details on items checked.

- ☐ CONCENTRATED LIQUID SOAP
- ☐ COCONUT OIL BASE
- ☐ OLIVE OIL BASE
- ☐ DISPENSERS
- ☐ RUB-NO WAX
- ☐ DEODORIZING CAKES
- ☐ DEODORIZING BLOCKS
- ☐ WALL CONTAINERS
- ☐ METAL POLISH
- ☐ MOPPING VARNISH
- ☐ DISINFECTANTS
- ☐ FURNITURE CREAM
- ☐ INSECT KILLER
- ☐ SPOT REMOVER
- ☐ SHAMPOOS

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EFFECTIVE

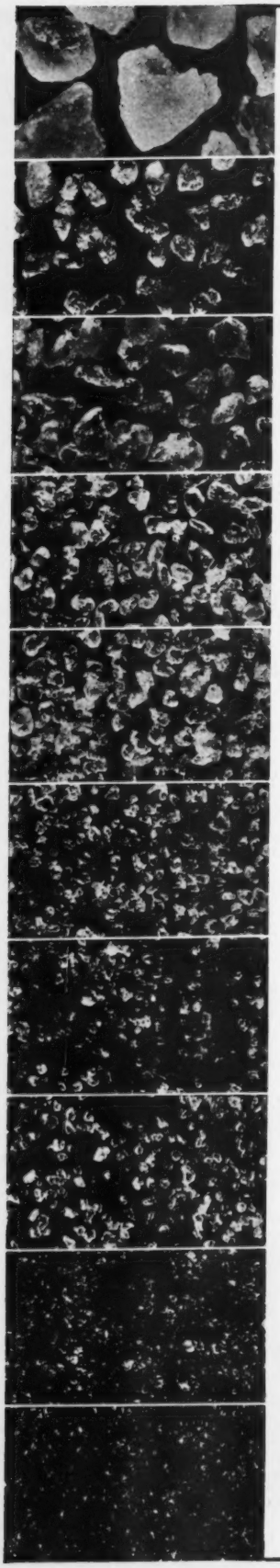


Effective soap perfuming requires specialized experience. We have gained this experience through years of serving and cooperating with the soap manufacturing industry. Continual research has given us a thorough understanding of the soap makers' needs.

Our constant aim is to produce the finest odors for every soap making requirement. We list several new and popular odor types for the soaps of today.

Carnation Savon .....at $4.50 per lb.
Lavendulet Savon ....at 6.00 per lb.
Lilacoeur .....at 4.50 per lb.
Bouquet Moderne ....at 3.50 per lb.

VAN AMERINGEN-HAEBLER, INC.
315 FOURTH AVENUE NEW YORK, NEW YORK



eeney-meeny-miny-mo

The *eeney-meeny-miny-mo* method of choosing a source of supply has two arguments in its favor —it's very easy, and it may work. But no businessman will take a chance on it—that is, not *intentionally*. Yet choosing a source of supply on the basis of facts, unless you've got *all* the facts, amounts to doing it the haphazard way.

The way in which the re-packer may fall into this error is by underestimating the degree of, and kinds of, difference in available supply . . . *What the blank!—Para-dichlorobenzene is para-dichlorobenzene.*

Sure—skepticism is healthy. But why not turn it the other way—and say *Maybe there is a difference!* If you're a businessman, you'll want to find out what the differences are—and what differences they make.

Now we're not modest about Solvay Para-dichlorobenzene, or the service that goes with it. In fact, the opposite. But we're not immodest enough to think that in the short space of this message we can fairly and accurately give you all the profit-pertinent facts necessary to make the wisest choice.

What we do say is this: It's very easy to clip the coupon below and get the facts. You'll be giving yourself more than an even break.

SOLVAY

TRADE MARK REG. U. S. PAT. OFF

PARA-DICHLOROBENZENE

Actual-size photographs of the *ten* grades in which Solvay Para-dichlorobenzene is available. Our technical staff is ready to help you select the most efficient grade for your particular purposes.

SOLVAY SALES CORPORATION
40 Rector Street, New York

Gentlemen: Please send me complete information on Solvay Para-dichlorobenzene.

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Address.....

City.....*State*.....

Dept. AJ



FIVE NEW CRISS-CROSS PREMIUMS

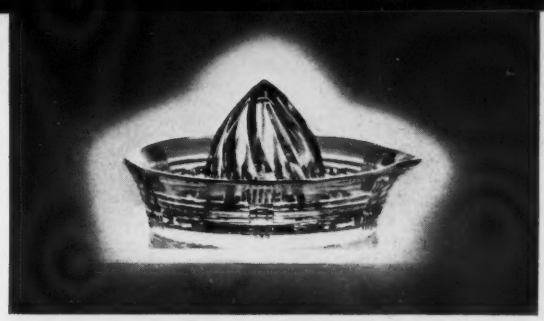
Add to the sensationally popular Criss-Cross refrigerator sets five new items—lemon reamer, orange reamer, dripping bowl, quart water bottle and ½-gallon water bottle.

This provides a matched line of eleven smart premiums suitable for every type of premium deal.

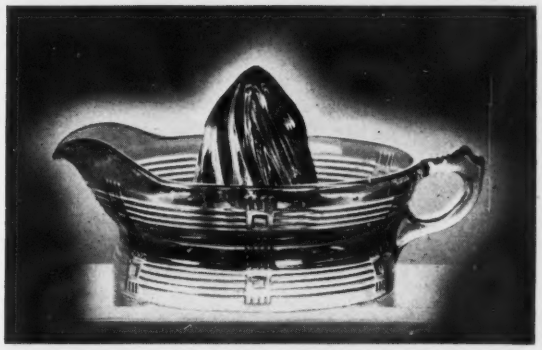
Alert manufacturers will investigate Hazel-Atlas Criss-Cross kitchenware. Each skillfully designed item has application in every home.

Write for samples, prices and further information.

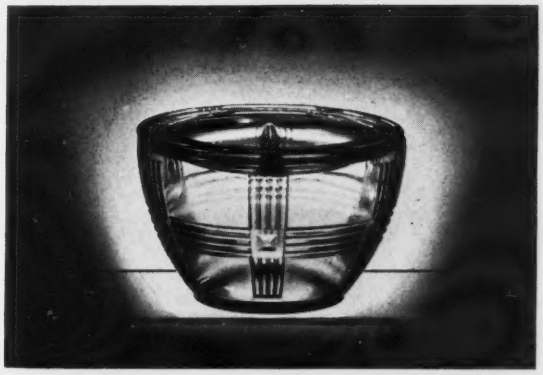
14-PIECE SET
(Assortment No. 1077)



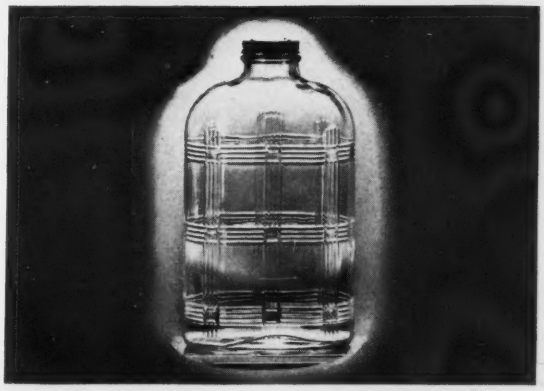
LEMON REAMER



ORANGE REAMER



DRIPPING BOWL

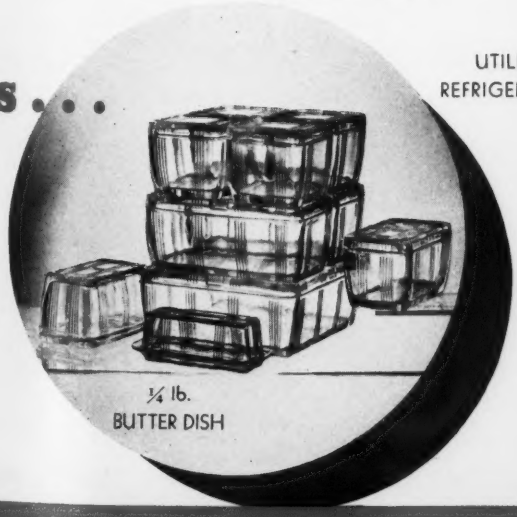


QUART WATER BOTTLE



½ GALLO WATER BOTTLE

plus . . .

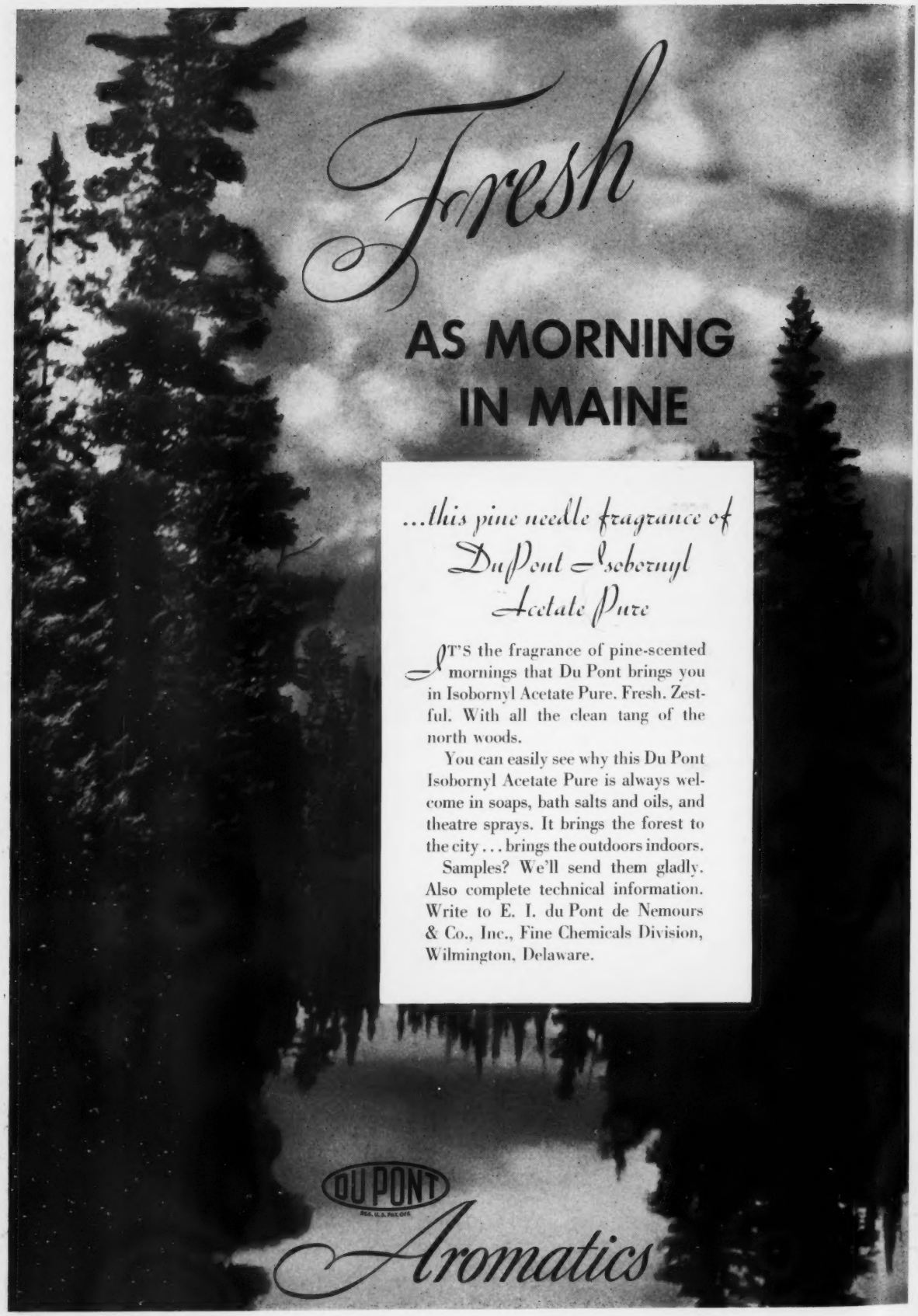


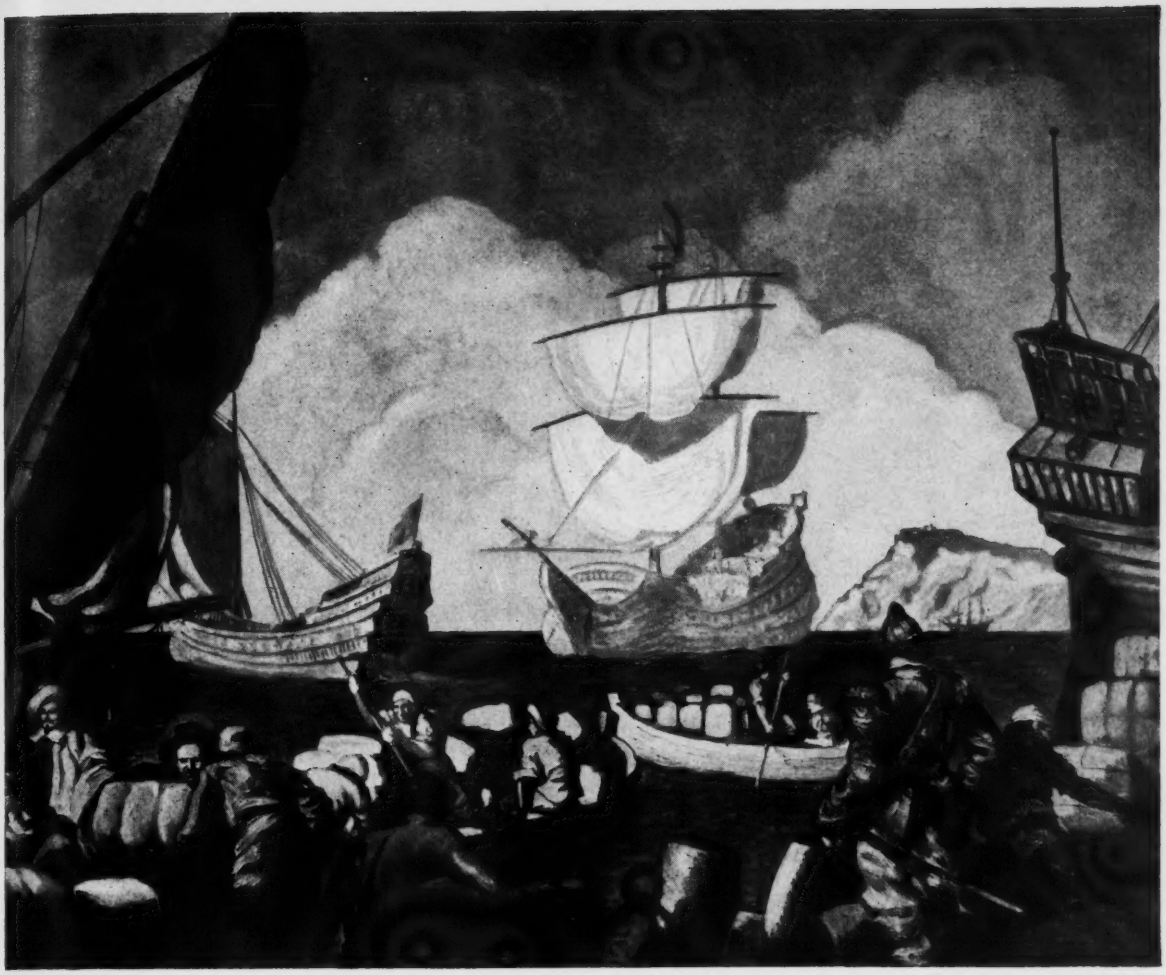
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¼ lb.
BUTTER DISH

1 lb
TTER DISH

HAZEL-ATLAS GLASS COMPANY WHEELING, W. VA.


Fresh
AS MORNING IN MAINE
...this pine needle fragrance of DuPont Isobornyl Acetate Pure
IT'S the fragrance of pine-scented mornings that Du Pont brings you in Isobornyl Acetate Pure. Fresh. Zestful. With all the clean tang of the north woods.
You can easily see why this Du Pont Isobornyl Acetate Pure is always welcome in soaps, bath salts and oils, and theatre sprays. It brings the forest to the city . . . brings the outdoors indoors.
Samples? We'll send them gladly. Also complete technical information. Write to E. I. du Pont de Nemours & Co., Inc., Fine Chemicals Division, Wilmington, Delaware.
DU PONT
Aromatics



Seventeenth century Spaniards loading Barilla for shipment to France.

During the Middle Ages, alkalies were used extensively throughout Europe in the manufacture of soap and glass. One of the most important sources of soda was the ashes of a fleshy plant called Barilla, grown along the seashores of Mediterranean countries. Spanish Barilla was preferred by manufacturers until the close of the 18th Century when soda made from brine by the LeBlanc process began to supplant it.

Through The Centuries With Alkalies

Today, an impressive list of American manufacturers find their chief source of supply for Soda Ash, Caustic Soda, and other alkalies in the great Barberton plant of THE COLUMBIA ALKALI CORPORATION. This preference is not due to coincidence, but to the cold logic of careful purchasers who have found by long experience that COLUMBIA delivers quality and value.

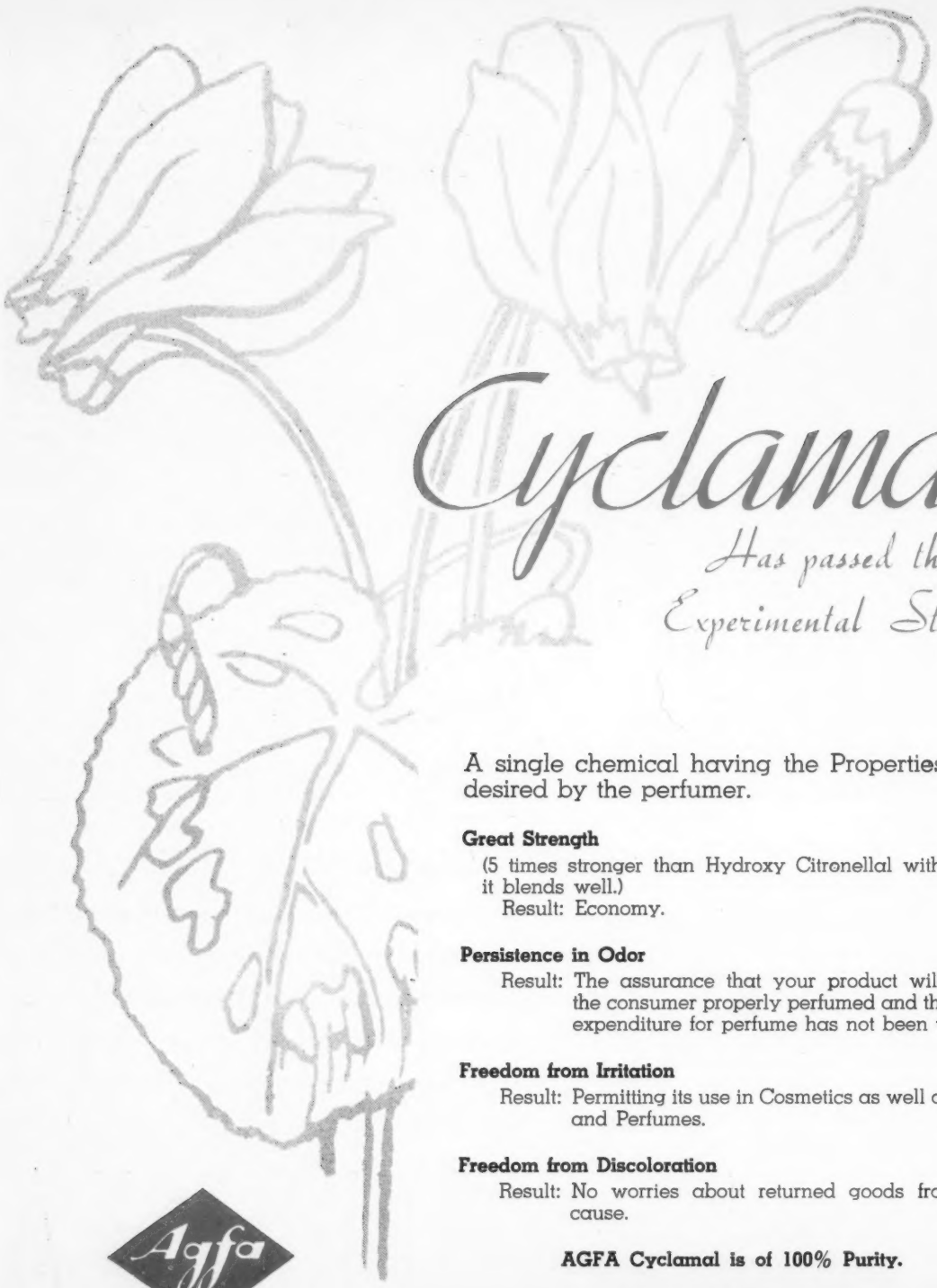
SODA ASH
CAUSTIC SODA
SODIUM BICARBONATE
MODIFIED SODAS
LIQUID CHLORINE
CALCIUM CHLORIDE

COLUMBIA

THE COLUMBIA ALKALI CORPORATION

BARBERTON • OHIO

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CLEVELAND CINCINNATI ST. LOUIS MINNEAPOLIS



Cyclamal

Has passed the Experimental Stage

A single chemical having the Properties most desired by the perfumer.

Great Strength

(5 times stronger than Hydroxy Citronellal with which it blends well.)
Result: Economy.

Persistence in Odor

Result: The assurance that your product will reach the consumer properly perfumed and that your expenditure for perfume has not been wasted.

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Result: Permitting its use in Cosmetics as well as Soap and Perfumes.

Freedom from Discoloration

Result: No worries about returned goods from this cause.

AGFA Cyclamal is of 100% Purity.

Samples upon request.

Agfa

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TRI SODIUM PHOSPHATE

FOR QUALITY CLEANERS AND DETERGENTS



THE physical properties of DU PONT Tri Sodium Phosphate make it the preferred product for soap and cleaning compounds.

Odorless and germicidal in solution, T. S. P. is available in five forms—fines, medium, coarse, globular and flake. It is the preference for built soaps or powders.

DU PONT Tri Sodium Phosphate is packed in non-sifting packages—barrels with paper liners, fibre kegs and bags. It is stocked at our many branches and warehouses—for quick delivery.

Write for your copy of the new folder on DU PONT T. S. P.

E. I. DU PONT DE NEMOURS & CO., INC.
GRASSELLI CHEMICALS DEPARTMENT
Wilmington, Delaware

Let us also quote you on—

Silicate of Soda
Caustic Soda
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Carbon Tetrachloride
Paradichlorobenzene
Sodium Fluoride
and other chemicals you may need

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REG. U.S. PAT. OFF.
FOR SOAPS AND DETERGENTS

For the best way!
The simplest way!
The most lasting way!

. . . TO COLOR AND PERFUME DEODORANT BLOCKS AND CRYSTALS

use FELTON COLOROMES

With Felton Coloromes, you can be certain to produce deodorant blocks and crystals with ***lasting fragrance and color!*** Your product will continue to please the nose until the final crystal has disappeared.

Try Felton Coloromes without further delay. They are economical in cost . . . and simple to use. Only one easy operation imparts both color and fragrance! Coloromes are available in a complete assortment of popular perfumes combined with related colors. (Also perfumes without colors.) Write for samples today!

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CHEMICAL COMPANY INC.

603 JOHNSON AVE., BROOKLYN, N. Y.

Manufacturers of Aromatic Chemicals, Natural Derivatives, Perfume Oils, Artificial Flower and Flavor Oils

Stocks carried in principal cities

Distinctly NEW

EX-ALK

LIQUID CLEANER

FOR FLOORS AND GENERAL PURPOSE CLEANING

Controls Alkalinity



MAKE THESE TESTS

1. Pour about one-half inch of EX-ALK in test bottle. Add Phenol, which in the presence of alkali turns a bright red. Shake up solution. No color is seen.

2. Add an equal amount of water to above. Still no color.

3. Compare other cleaning soaps as in 1 and 2.

4. Pour EX-ALK into a soap solution that shows alkaline. The red color disappears. EX-ALK neutralizes the alkali.

Above tests prove the non-alkaline character of **EX-ALK**; and indicate how **EX-ALK** controls the alkalinity of cleaning solution.

EX-ALK is a *cleaner,* built to do a *cleaning* job on all surfaces. It is non-alkaline. Add ¼ pint (4 ounces) of **EX-ALK** to each 3 gallons of water to make the proper cleaning solution. *EX-ALK controls alkalinitv.*

Plus All These Features

1. Heavy suds produced by **EX-ALK**, clean with a gentle, thorough action.
2. **EX-ALK** is free from highpowered "wetting agents" with such great penetration property as to drive dirt into pores and crevices.
3. Economical in use: 4 ounces of **EX-ALK** to 3 gallons water makes proper scrubbing solution.
4. Harmless to any surface that will stand washing with clear water.
5. Furnished in Pine or Sassafras.

"EX-ALK" *Product of* **THE DAVIES-YOUNG SOAP CO.**

DAYTON, OHIO

A Test Kit will be furnished Free with an order for 1 drum of EX-ALK

Send for FREE SAMPLE and Complete Information

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio:

Please send sample, prices and other information about EX-ALK Liquid Cleaner.

Name .....

Address .....

City .....

Standard

ORTHOSILICATE
SUPERSILICATE
METASILICATE

will improve your fabricated compounds

- Built Soaps and Detergents for Laundries
- Metal Cleaning Products
- Cleaning Compounds for Buildings, Factories, Garages, Hotels, and Institutions
- Cleaners for the Food Processing Industries

Check these advantages

- ✓ Greater soil-suspension
- ✓ More concentrated alkalinity safely controlled
- ✓ More constant maintenance of high pH
- ✓ Less corrosion of metals
- ✓ Higher bacteria-destroying power

S-2

Why not let our technical department show you how you can improve your fabricated compounds with Standard Sodium Silicates.

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KOPPERS BUILDING • PITTSBURGH, PA.
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N. Y. · MARSEILLES, ILL.

CANDY ANNOUNCES A NEW HEAVY DUTY

PASTE CLEANER

WILL NOT "BALL-UP" OR "RUN AWAY" . . . SCIENTIFICALLY GRADED ABRASIVE ASSURES QUICK ACTION WITHOUT SCRATCHING...SHIPPED IN MODERN STEEL CONTAINERS UNDER YOUR OWN LABEL

SEND TODAY FOR TEST SAMPLE!

"BRIGHT BEAUTY" . . . Candy's new heavy duty paste cleaner . . . has a texture very similar to cold cream. It is a uniform, smooth material which easily adheres to the cloth or pad . . . and readily adapts itself to the surface to be cleaned.

With Candy's "Bright Beauty" there's no lost motion getting the cleaner out of the container . . . no tendency to "ball-up" after the cleaner has been spread out . . . no "running away" from the cloth, sponge or cleaning pad.

Scientifically Graded Abrasive

To insure quick action without scratching, the abrasive in Candy's Bright Beauty Paste Cleaner is carefully graded. This has meant the installation of expensive grading equipment. Coarser particles which might harm the surface are eliminated without increasing the percentage of super-fine inactive particles appreciably.

Has Many Uses

"Bright Beauty" Heavy Duty Paste Cleaner is a quick acting cleaner for all-around use on practically all types of surfaces. Typical uses are as follows:

Bath tubs . . . glassware . . . steel . . . composition floors . . . wash bowls . . . nickel . . . copper . . . brass . . . enamel . . . painted walls . . . surgical and dental instruments . . . corrosion . . . machinery . . . terrazzo . . . kitchenware . . . aluminum . . . linoleum . . . marble . . . tile . . . refrigerators . . . soda fountains . . . restaurant fixtures . . . creamery vats.

SOLD EXCLUSIVELY THROUGH DISTRIBUTORS

"Bright Beauty" Paste Cleaner is sold exclusively through distributors under private label. It is never sold direct to the consuming trade. It is our unalterable policy never to compete with our distributors.

Attractive Metal Containers

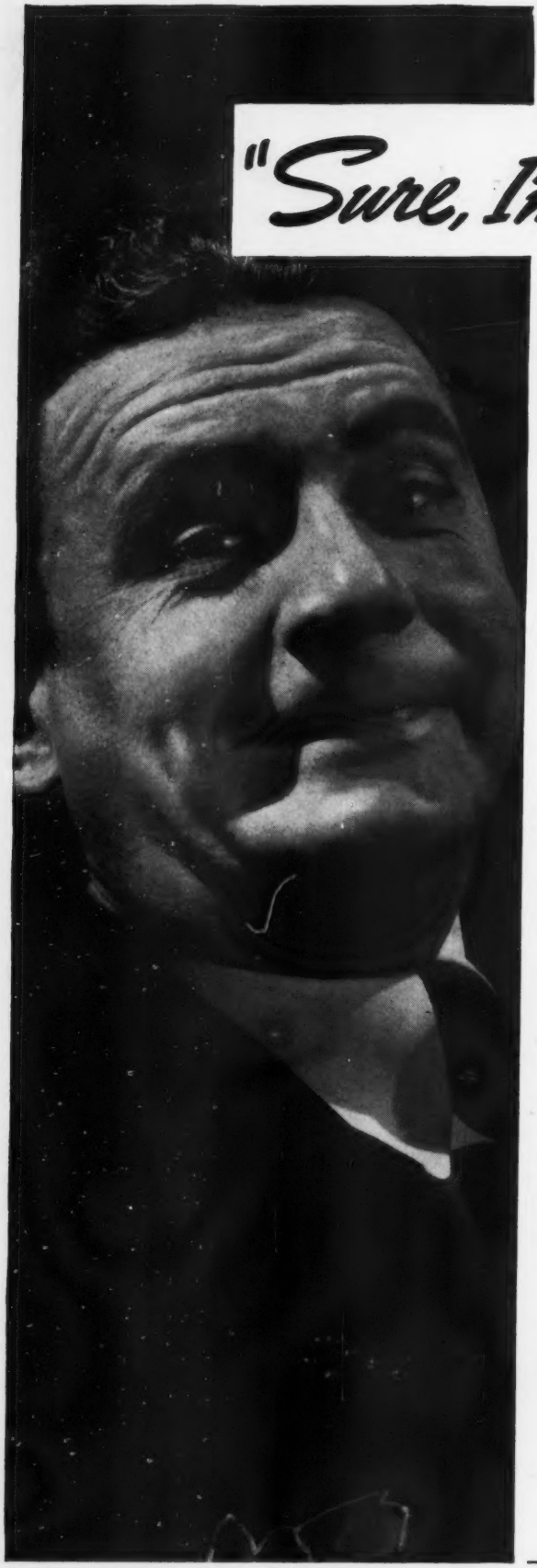
"Bright Beauty" Cleaner is shipped in modern steel drums under your own label. It is competitively priced yet can be sold so as to allow you a liberal margin of profit. Samples are available to aid you in getting quick distribution of this new cleaner among your regular customers.

CANDY & COMPANY, Inc.

2515 W. 35th STREET, CHICAGO, ILL.

Wax Specialists for Over 40 Years

Also manufacturers of quality grades of Prepared Paste Wax . . . Spirit Liquid Prepared Waxes (buffing type) . . . Powdered Dance Floor Waxes . . . Concentrated Cream Furniture Polish . . . Paste Cleaners . . . Rug Shampoo.



"Sure, I'm a FUNNY GUY ... sometimes!"

"Salesmen say I'm a 'funny guy' . . . have an idea that I never take them seriously. Well, it's all right with me if they keep on thinking so, because I'm a busy man and if I didn't do something to discourage these lads, they'd bother me all day long.

"But I put aside that 'protective mask' of flippancy when I pick up my copy of *Soap and Sanitary Chemicals.* Then I am serious enough. Those editors know my business. They keep me in touch with trends and developments and give me practical ideas about new products, new processes, new developments in equipment. And I read the ads, too, because I know they are in there because they have something to offer—not because they get editorial publicity. As a matter of fact, the advertising in *Soap and Sanitary Chemicals* gives me a good steer on which salesmen I *should* take seriously.

"Is it any wonder that I willingly renew my subscription to *Soap and Sanitary Chemicals* year after year?"

A practical book on Soap Manufacture...

"MODERN SOAP MAKING"

By Dr. E. G. Thomssen and C. R. Kemp

Here is what the authors say about their own book in the foreword:

"Above all, this book is designed as a practical volume for the practical soapmaker. Its compilation is based on twenty years of actual experience in the soap plant by the authors. Little attention is given to the theories of saponification or detergency. The emphasis is all on the practical handling and refining of raw materials, kettle practice, and other operations in the modern soap factory."

A practical 540 page book on raw materials, manufacture and testing of

TOILET SOAPS	LAUNDRY SOAPS	SHAVING SOAPS
MEDICATED SOAPS	SOAP POWDERS	SHAMPOOS
ANIMAL SOAPS	SCOURING POWDERS	LIQUID SOAPS
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TEXTILE SOAPS	DRY CLEANING SOAPS	FLOOR SCRUB SOAPS
NAPHTHA SOAPS	INSECTICIDE SOAPS	POWDERED SOAPS
GLYCERINE	FATTY ACIDS	SULFONATED OILS

AND OTHER DETERGENT AND ALLIED PRODUCTS

$7.50 postpaid in the U. S. A.
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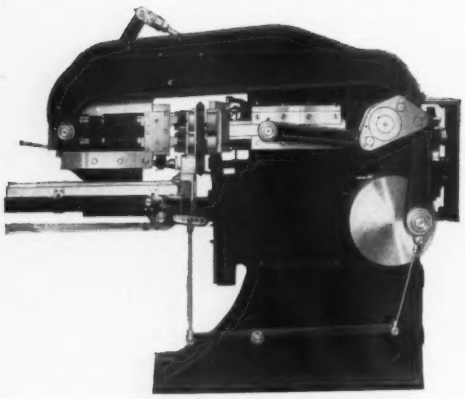
MAC NAIR-DORLAND COMPANY

254 W. 31st Street *Publishers* **New York**

. . . avoid cracked soap!

By improved pressing with modern equipment . . . toggle operated

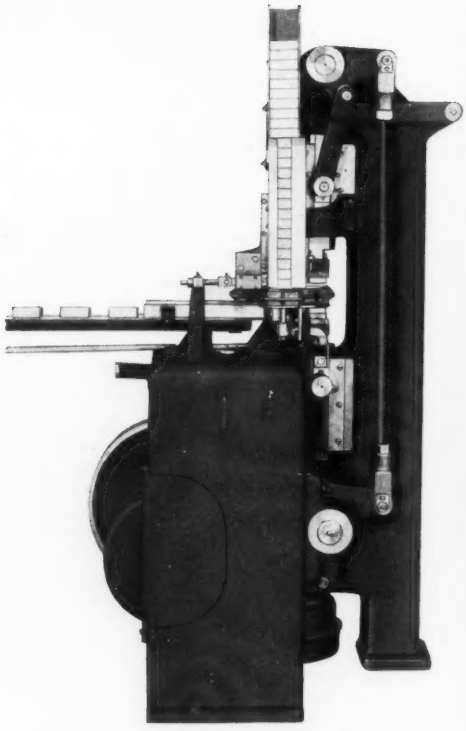
JONES SOAP PRESSES



Type K Laundry Soap Press

"Weak, inadequate pressing . . . may mean cracked soap." This is what J. M. Vallance had to say on this subject in the preceding issue of *Soap.* Not only may poor pressing be a contributing cause to cracked soap, but marred cakes and generally unattractive soap as well.

Avoid all this by modernizing your soap pressing equipment . . . consider now replacing those obsolete, expensive-to-run presses with new JONES Toggle-Operated PRESSES . . . increased output, perfect and "adequate" pressing, no noise or vibration . . . in all, better soap and greater economy with new JONES PRESSES.



Type ET Toilet Soap Press

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

SOAP chips are fighting back at the newer spray tower soaps, aiming their fire at the globular, granular, and powdered products. A recent advertisement of a large chip manufacturer, and a comparative recent convert to this form of soap, stated: "No sneezy dust in our soap chips. If dusty, powdery soaps hurt your nose and throat, imagine what they do to your clothes."

In comparing the alkali-filled spray products to an all-soap chip, we suppose the point is well taken. But we wonder in this case, as we have in the past, if this type of advertising does not injure the cause of all soaps, good and bad, filled and unfilled. We doubt if the housewife appreciates the significance of the point which the advertisement makes. To us, it recalls the argument which was advanced to the colored man-of-all-work back in our college days against drinking water,—if water will rust an iron pipe, imagine what it is liable to do to the inside of your stomach.



EXHIBIT No. 666 in the soap advertising chamber of horrors has just been installed with all due ceremony. This latest addition to our collection emphasizes again that far in the lead in the weird soap advertising derby are the department stores of the nation,—not the little back-street stores, but the big fellows of high repute. Compared to some department store soap advertising, the enthusiastic claims of the most care-free manufacturer are just a feeble peep,—and the fellow who puts in five per cent of olive oil and advertises his soap as "pure olive oil castile," is a piker. For when it comes to soap advertising claims, the copy writer for the average department store lets go with an abandon which sweeps everything before it, permitting no small details such as the laws of chemistry or physiology to interfere with progress.

Our latest exhibit in the fine art of soap advertising, clipped from a large daily, has the following to say: "We asked the doctor about the buttermilk in our hardwater soap. Here's what he said: 'Buttermilk contains lactic acid, the same thing you drink to ward off colds. Well, using lactic acid in a soap will not only revitalize your skin but gradually increase its immunity to germs . . . Buttermilk is good for beauty, too, because of its emolient qualities. . . ."

Really, a product such as this is too fine to use for washing. It should be marketed in flake form for use as a health-giving breakfast food,—and the "doctor" should be made to eat a bowl of it every day from now on. Beside this product, the claims for "milk of magnesia" soap which we had heretofore thought to be pretty good, fade to a mere nothing. But in all seriousness, some good friend should tell these department stores about the Federal Trade Commission real soon.



IN spite of excise taxes and other imposts, the importation of oils and fats into the United States in 1937 was the greatest in the history of the country, approaching three billion pounds. This was a half-billion pounds greater than 1936, and a full billion above the average imports for the preceding five years. Some very striking changes were observed in the character of the import figures. Tallow, which accounted for a

sixty-eight million pound import in 1936, was practically eliminated as an imported fat in 1937. More coconut oil and copra were imported last year, but the really sharp increases were in palm kernel oil, which jumped to six times its 1936 figure, and palm oil which was almost doubled.

As in 1936, it is believed that the greater part of this increased bulk of fat and oil imports went into edible products, although purchases for the soap kettle were probably somewhat larger in 1937 than they were in 1936. There is another factor on the horizon of this oil and fat import situation which has the possibilities of bringing further sweeping changes in demand. It is the trade treaty now being negotiated with the United Kingdom. If this goes so far as to cut present excise taxes in half,—and this appears unlikely, although it is altogether possible,—little imagination is required to picture the changes which may follow in the world oil and fat markets.



TO be considered seriously in the present vogue of government, national, state and local, dipping its fingers to the elbow in the affairs of industry, are the matters of new state taxes, labor laws and other laws duplicating federal statutes, new registration and licensing requirements for a million and one products, and similar things which give manufacturers an ever swelling headache as the months roll by. Some states and cities are hard up for money and are searching about for every conceivable type of new tax to get it. Manufacturers from outside of the state constitute the richest and easiest source,—and there are no hard feelings, no lost votes, at home.

Some states and cities have special registration laws and licensing so that they may control the sale of various products within their borders. Others have the same because some crack-pot in the lawmaking body or in the enforcement bureau thinks that they should have it,—and still others have it because some local manufacturers instigate such regulations to embarrass outside manufacturers. In all, the structure of restrictions and regulations on every business and industry the country over is growing like a mushroom. How far it will go and where it will end, nobody knows. What we do know, however, is that manufacturers are rapidly becoming fed up with the whole mess. Is it any wonder that business becomes daily more disgusted with and embittered by governmental activities?



FROM here and there, we continue to note protests by associations of retail dealers, chiefly grocers, against house-to-house sampling by manufacturers. As is quite well known, every time a crew of samplers goes into any community to distribute free packages of any product, the business of the local merchants who stock and sell that product or similar products, is reduced accordingly. Even if a free-goods ticket, cashable at the local grocery store, accompanies each free package, the same is true. And the merchant does not like to be bothered with the tickets, as well.

Local grocers and druggists dislike the practice intensely. That it tends to build up ill-will against a manufacturer's products is quite evident. That it builds any permanent demand among housewives for a product is certainly debatable. It is known that merchants in retaliation have attempted to switch prospective purchasers away from a product which has been recently sampled in their neighborhoods. As far as we can determine, house-to-house sampling is a sure-fire builder of dealer hostility. We found it to be true ten years ago, and we find it true today.



SEVERAL of the leading firms in the soap field have moved in recent months to try out the possibilities of price maintenance by operating under the various state fair trade acts. While the industry in general is sceptical of such measures, it is fortunate that there are some firms at least who are willing to submit the plan to test. Needless to say, the rest of the industry will observe their results with great interest.

...which shampoo?

beauty shop operators are interviewed to find out which shampoos they are using and why

WHAT is the trend in the demand for shampoos by beauty shops? Which type is finding greatest favor today and why? That the general consumption of shampoo materials by professional operators has been on the rise is quite definitely known. The object of looking into the shampoo situation, however, was to find which types are heading the parade and which will find widest use in the future. It is also known that business conditions, the general state of employment and the like, have a very direct bearing on the beauty parlor business, and likewise on shampoo consumption. This phase of the subject was also considered.

Because of the diversity of shampoo materials used, wonder has often been expressed as to whether the owners of beauty shops and the operators really know anything about shampoos based on their observations in daily practical use, whether they have anything resembling scientific knowledge on the subject, or whether their ideas are formed from statements made by the salesman with the smoothest and most convincing line of talk. This feature of the shampoo situation was also looked into among a dozen or so representative beauty parlors in New York. It so happened that these New York shops were handy to visit, and that they represent all types from the most expensive Fifth Avenue shops to the small local shops with much lower prices. Whether these conditions in New York are representative of other large cities is not known, but the chances are that the situation is pretty much the same.

After talking with the managers of various beauty parlors in an



Photo Ewing Galloway.

effort to find out something about their ideas on shampoos, the conclusion was drawn first of all that these people know little or nothing about the shampoos which they use. At any rate, what little information they volunteered was seldom based on anything resembling a scientific understanding of what their products would and would not do. Asked why they used such and such a soap, the reason advanced several times was, "It was being used when I came here." They were asked if they had ever received customer complaints. "Oh no," was the universal answer, "we *never* have customer complaints."

Although soap shampoos are still the most widely used in New York beauty parlors, the new soapless preparations are fast gaining in favor with the customers, according to the managers. This is especially true of the more exclusive Fifth Avenue salons, where they have been advertised widely, and where the price apparently does not represent as large an item in the customer's pocketbook as it does in the smaller neighborhood shops. In the opinion of the beauty shop managers, it is only the price of the soapless preparations, which run from 50 cents to 75 cents a treatment higher than soap, which prevents their use from becoming more widespread.

Soapless shampoos are proving superior, they claim,—first, because they do not rob the hair of its natural oils; second, because they are more efficient in removing oil used in a previous treatment; third,—and anyone who knows anything at all about the beauty parlors will realize the importance to them of this argument,—because they leave the hair in a better workable condition for taking a good permanent wave. If there was a psychological handicap in the beginning in the use of a shampoo which does not lather (in this respect, they apparently had reference to the sulfonated oil products and not to the newer synthetic detergents) this, say the beauty shop operators, has been largely overcome by advertising, and by the pleasing results obtained.

As for soap shampoos, inquiry shows that a potash base shampoo in the lower-priced shops, and castile granules in the more expensive ones are most widely used. In fact, along Fifth Avenue, especially in the beauty salons of the large department stores, there seems to be no other soap shampoo but castile or soaps termed castile. One manager was asked if this uniformity of use indicated that experience had proved this soap to be the best shampoo. She was not sure about that, but pointed that the reason might be because most of the Fifth Avenue parlors are run by chains, and much of the buying is centralized.

The manager of another shop, which also operates eleven other salons in the city, said that they used castile granules for shampoos because they lathered easily, because they performed a more efficient job in really cleaning the hair, and because they never turned rancid. (This ought to be news to some soapers.—Ed.) She also pointed out that the soap was convenient to handle. It comes in 100 lb. fiber containers and is mixed with water, about a pound of granules to a gallon of water. This liquid is then further diluted about four times. No perfume or other materials are added. The "castile" granules which they used, she added, were made from a mixture of coconut and olive oils, and that while this lathered less profusely than a straight coconut soap, New York water was soft enough so that the difference was not noticeable.

In the smaller neighborhood beauty parlors, which taken by and large must serve a greater total number of customers than the fashionable, higher-priced salons, the most widely used shampoo is made from a potash coconut base. Some castile granules are used, and bar soaps, which are shaved and boiled in water. Pine tar soaps and even a few of the well-known toilet brands are used for this purpose. Soapless shampoos enjoy some demand, but as was pointed out, their higher price is a limiting factor.

The managers of the smaller shops said that the reasons they used a potash base for shampoos were because it is cheaper, because it produces a good lather, rinses easily, and dissolves very readily in solution. The main disadvantage mentioned was that it is irritating to the operator's hands. (No mention was made of the scalps of the customers apparently.—Ed.) Shampoos from bar soaps, both special shampoo bars and regular toilet soaps, are reported used in some of the smaller beauty parlors. One manager, who said she had been in the business for twenty years, stated that bar soaps gave the right "squeak" to the hair, which was the term she used for describing a clean head.

As for liquid shampoos, that is, branded and bottled liquid shampoos already made up by the manufacturer, nearly all of the beauty shop operators interviewed declared they were taboo. They were never used unless a customer requested them. The reasons given were that they contain too much alcohol, which dries up the natural hair oils, and that in order really to get the hair clean so much is required that the cost of the material is prohibitive. One manager, speaking of the liquid shampoos sold to the general consumer, said that about three or four times as much as the manufacturer specified in the directions was often necessary in order to get a clean head of hair.

One feature of shampoo use by beauty parlors in New York which may differ widely in certain cities of the Middle West is the matter of hard water. The water in New York is very soft. The use of soap products, whether they are soft potash type or castile or what-not, has none of the drawbacks

which are characteristic in the hard-water districts. Castile soaps used with soft water, lather quite freely and rinse fairly well, particularly if they contain a proportion of coconut oil. The same soaps in real hard water are almost useless. The difficulties encountered are sufficient to discourage their use, not only because of poor lathering properties, but because of the lime soap scum deposited on and in the hair which is difficult to remove. The potash soaps are more freely soluble, lather far more profusely, and are easier to rinse, but nevertheless, they likewise have some drawbacks as the result of the deposit of insoluble soap curds on the hair. Naturally, the non-soap shampoos, whose lime and magnesium compounds are soluble, are the indicated products for use in hard water.

The wider use of the soapless shampoos in the hard water districts, irrespective of the type, has one large stumbling block, — their high cost. They still cost so much more than soap that all their superiority in hard water does not make up for the price which beauty parlor owners have to pay for them. Right at this time, with a marked drop in employment in many districts of the Middle-West,—the main hard-water districts,—means that there is less money to be spent for beauty parlor treatments than there was last year. The resistance to the wider use of non-soap products as a result is likely to be greater this year than it was in 1937 unless there is a decline in cost of the materials which will make itself felt in the form of a marked drop in the price of shampoo treatments using these products.

All in all, beauty shop managers with a few exceptions appeared to have some rather definitely set ideas in favor of the shampoo products which they are using at present. That a proportion of them have never taken the trouble to look into the newer developments, is obvious, and is evinced by the fact that ordinary toilet soap is in a few cases of smaller shops cut up and boiled with water to make a shampoo. Of course, behind this may be a great urge for economy. Where there is none too particular a clientele and where prices are very low, this is probably the reason. They are able to "get away with it" because of their low prices.

One interesting observation was made based on the comments of shop managers in regard to the non-soap shampoos, the ones referred to mostly being the sulfonated oil products. It was stated by some that these did not rob the hair of their natural oil, and by others that they did a more efficient cleansing job. In fact, in some cases, both claims were made by the same manager. It is difficult to see in shampooing a scalp how the cleansing agent is clever enough to differentiate between foreign grease and the natural oil of the scalp,—how it removes the foreign matter but does not "rob the scalp of its natural oil."

One of the chief objections to the use of the synthetic detergents, but not the sulfonated oils, coming evidently from those who have investigated the subject, is that the new detergents are too good a cleanser when used as shampoos. It has been trade gossip for some time that they will take all the grease, oil or what-not out of the hair, whether it be natural oil or added grease, and leave it very dry. For hair inclining to dryness, they have been held unsuitable for this reason.

So, after talking to these various and sundry beauty shop owners and operators and coming to the conclusion that they do not know a great deal about what they are doing when it comes to shampoos, there is one observation which stands out and is of keen interest to the trade. Cost of shampoo material is paramount in the great percentage of beauty shops. It is the most important factor in deciding which shampoo is used, except in a small number of shops. The material which will give the most satisfactory shampoo results at the lowest possible cost, is the material which is going to command the market of the future. As long as all the non-soap products remain as high in price as they are today, the bulk of the professional shampoo trade will continue to be enjoyed by soap.

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By the colorimetric method of determining pH, results can be made to agree with electrometric measurements within 0.2-0.3 pH unit. Both the ultrafiltration and catalytic methods are laborious, of a low order of accuracy and of value chiefly for academic purposes. The electrometric method using the quinhydrone electrode can be applied only to very dilute soap solutions. The antimony electrode holds greater promise, although neither theory nor practice has been perfected in this case. The same comments apply to the glass electrode although under certain conditions it has advantages over every other means of measuring hydrogen-ion concentration. It develops its full e.m.f. instantly; it does not contaminate or alter the sample; it is unaffected by oxidizing or reducing agents, by colloids or proteins; it can be used with viscous solutions or pastes. One of the most serious drawbacks to the use of this electrode with soap solutions is its salt error.

—— ♦ ——

Measurements of the surface tension of sodium oleate, ricinoleate, stearate, 2,10,12-hydroxystearate, acetylmalonate and 1,16-hexadecandicarboxylate indicate that the introduction of a second hydroxyl group reduces the detergent properties because of a change in the orientation of the molecule at the interface. The explanation is that the two water-seeking hydroxyl groups bend the molecule back toward the water layer, where with only one such group, the hydrocarbon part can penetrate normally into the oily layer. Luigi Szego and Lamberto Malatesta. *Atti V congr. nazl. chim. pura applicata*, Rome Pt. I, 569-77; through Chem. Abs.

Oil of Rose



A geranium oil field broker in Reunion Island.



Harvesting the geranium plant in Reunion Island.

OF ALL the essential oils used in the perfuming of toilet soaps, none is more important or more indispensable than oil of rose geranium, because it combines richness and power of odor with lasting qualities and stability in an alkaline medium. In fact, a pure rose geranium oil is almost a perfume in itself, of a decided rose character which blends into every type of compound, flowery as well as oriental.

Much has been written about rose geranium oil, but most of the literature is based upon hearsay and reports and few are the authentic accounts written by experts who have had occasion to survey in person the production of rose geranium oils in the different parts of the world. The following report attempts to give an unbiased picture of observations which the writer was able to make during his latest visit to Southern France, Algeria, Morocco, Kenya and Reunion Island. It is directed to those American manufacturers of soaps and other users of geranium who are sincerely interested in learning the actual facts underlying the production of this important oil. It does not attempt to go into detail concerning the botany, cultivation, distillation or chemistry of rose geranium oil, elucidating primarily those features which in literature and reports appear most confusing and contradictory.

The name "geranium" is rather misleading because the only true geranium oil produced is oil of *geranium macrorrhizum* or *Zdravetze* distilled in Bulgaria in small quantities. The commercial oil of rose geranium (or, as it is often called for short, "geranium") originates in reality from different Palargonium varieties or subvarieties of which several hundreds are known to literature. It is an obscure problem and so highly contradictory and confusing that we had better omit any onerous repetition of practically useless discussions.

"Geranium", it seems, is only a horticultural name which has nothing to do with true geranium, our commercial geranium oil being produced from different Pelargonium varieties. The only place Pelargonium grows wild is in the Cape Province of South Africa from whence during the first years of the eighteenth century cuttings were exported to Europe, crossed and hybridized in the European greenhouses, botanical institutes and by gardeners. It seems probable that all the commercial varieties such as French, Algerian and Bourbon (also called Reunion) oils, and also the lately produced Mahwa are descendants of these hybrids which were created in Europe and re-exported to the colonies. This theory of hybridization would explain the difficulty of getting germination from the seeds of the pelargonium plants, also the fact that the seeds, if they actually germinate, do not come true to their parents but are often "sports" or different varieties or subvarieties. Therefore, all the commercial propagation of the plants is done by cuttings.

Geranium

A survey of the producing areas, types, character and outlook — the first article of a series.

By Dr. Ernest Guenther

Fritzsche Brothers, Inc.



Showing the rugged character of the country in Reunion Island.



(Above) View in St. Denis, capital of Reunion Island.

(Below) The coast of Algiers in the African geranium country.

Pelargonium graveolens being probably the mother plant, in order to avoid confusion we shall in the following pages refer to oil of Pelargonium graveolens simply as "oil of geranium" such as it has been introduced to the trade for many years.

For the distillation of the oil, large scale geranium plantations were first started in Southern France in the Grasse region during the first decades of the nineteenth century. Around 1850 plants were exported to newly conquered Algeria, and a new industry of geranium oil sprung up in the Mitidja Plain. Around 1880 plantations were started, also from Grasse plants, on Reunion (or Bourbon), an island in the Southwestern Indian Ocean, from whence today the bulk of our geranium oil originates.

Geranium oil being a very important perfumers' raw material, many attempts have been made to cultivate the plants in other suitable localities such as Corsica, Spain, Egypt, Morocco, Florida, California, Madagascar, Southern Russia and lately especially in the Kenya Colony (British East Africa), but most of these attempts have been given up as unsuccessful because of unsuitable climatic or economic conditions. To-





A typical still for the production of geranium oil on Reunion Island.

day the bulk of geranium oil comes from Reunion Island, a much more limited quantity from Algeria, while Southern France produces only a negligible quantity. Kenya is still experimenting, partly with geranium, partly with so-called mawah oil, which latter, though more important, must be regarded as a different type of oil.

Following the historical development, we shall give a short account of the various types of oil as produced in the different main producing regions.

The same mother plant exported from Southern France seems to form the base of all the plantings in Algeria, Morocco, Reunion Island, Kenya, etc., but local conditions strongly influence the botany of the plants and after a few years of growing in a different soil and climate, the character of the plant seems to stabilize towards a certain new type. Influence of climate and soil, of altitude and actinic factors, not to speak of methods of distillation, seem to create quite marked differences in the essential oil. Geranium seems to grow in tropical as well as in temperate climates, in all altitudes. It is easily propagated from cuttings and, therefore, has tempted so many experiments of commercial exploitation, all endeavoring to break the monopoly held at present by the few producing regions.

Geranium requires porous, open and light soil, dry in summer and not too damp in winter, waterlogged soil being particularly harmful. It thrives best in a temperate but not too hot climate. Temperatures below +3° C. kill the plants, a subtropical climate, therefore, being most suitable to luxuriant development. In Southern France where the thermometer during winter sometimes falls below that point, the plant is annual and must be replanted each year, but in warmer climates, it becomes a perennial lasting on an average five to six years.

Geranium requires a certain amount of moisture, not necessarily by irrigation but rather moisture from the atmosphere, and it is for this reason that the coastline of Algeria and especially certain parts of Reunion Island in the South Indian Ocean are so well suited for the growing of this plant. Undoubtedly these hygroscopic influences of climate bring about certain mutations in the plants. Kenya, with its prevailing high altitude and dry climate offers the best example. A waterlogged soil, with ample rainfalls might be just as deadly to the plants as frost, but excessive dryness and heat, too, might cause great damage either by mortality of the plants or by lowered yield of oil.

French Oil of Rose Geranium

The finest quality of geranium oil is still produced in Southern France, in Grasse, and especially in the beautiful valley of the Siagne River around Pegomas, Auribeau and Mandelieu, not very far from fashionable Cannes. Years ago the annual production of geranium herb in these regions amounted to almost 2,000,000 kilos, but lately yearly production has fallen off to only a few hundred kilos of oil which are used almost exclusively in some of the finest creations of French perfumery. The oil has a decided rose-like character which makes it very desirable for certain creations of the perfumer's art where the stronger minty note of the Algerian and especially of the Reunion oils might be objectionable. However, winter temperatures of Southern France sometimes fall below +3° C. and since geranium is killed at that temperature the plants are only annual and must be replenished every year which, aside from the higher cost of labor and production in France, makes the French geranium oil relatively rather expensive. An oil distilled in our factory in Seillans (Var) France, showed the following properties:

Specific Gravity at 15° C	0.903
Optical Rotation in 100 mm. tubes	—11°34′
Solubility at 20°C	Soluble in 2 to 2.5 volumes of 70% alcohol; turbid with more.
Refractive Index $n_D^{20°}$	1.4710
Acid Value	4.2
Geranyl Tiglinate	28.6%
Total Geraniol	69%

The French oil of geranium on account of its high price is of little, if any, importance to the American soapmaker.

Corsican Oil of Rose Geranium

Years ago, geranium was planted on the northern part of the east coast of Corsica, especially in the Cantons of Brando, Luri, Borga and Erbalunga, but today these plantations are in a very neglected state. The oil is of no importance to the American consumer.

Egyptian Oil of Rose Geranium

About ten years ago, Mr. Charles Garnier experimentally planted geranium near Cairo. A genuine oil collected by the writer on the occasion of a visit to Egypt showed the following properties:

Specific Gravity at 15°C	0.906
Optical Rotation in 100 mm. tubes	—8°16'
Refractive Index $^{n}D20°$ C	1.4690
Solubility at 20°	Slightly opalescent in 2 volumes of 70% alcohol; cloudy with more.
Acid Value	8.4
Geranyl Tiglinate	22.7%
Total Geraniol	70.8%

The perfume of the oil was very strong and lasting. When incorporated into good soap stock it proved to be of outstanding strength. While offering good prospects for the future, the experiments on account of the world's depression unfortunately were discontinued.

American Oil of Rose Geranium

The Department of Agriculture, Bureau of Plant Industry, Washington, carried out some interesting field work in an attempt to grow and distill geranium in Florida and California. The oils proved to be of excellent quality, but unfortunately a root disease destroyed the hopes put into this venture and experiments were discontinued. An account of this work has been given by M. S. Lowmann[1].

Italian Oil of Rose Geranium

F. La Face[2] described the properties of an oil distilled experimentally in Calabria. The oils were of the Algerian type. Nothing is made known regarding any further extension of this work.

Russian Oil of Rose Geranium

According to available literature, much work has been done in Soviet Russia in relation to the growing of geranium in Southern Russia and in the Caucasus[3]. A few years ago small lots of those oils were offered on the American market, and examining them for their behavior in soap stock, we found that they resembled an intermediary between the so-called Kenya mawah oil and the Bourbon geranium oil.

According to N. M. Viltchinsky[4], the cultivation of geranium has developed very quickly especially on the Black Sea coast. While not grown in pre-war Russia, geranium was propagated from a single plant casually found at Sukhum, and since the beginning of 1920 has been cultivated as a field plant. Despite the great attention which this cultivation has been given by the various government organizations, many difficulties such as lack of scientific data, trained workers, experience in winter storage of the cuttings, etc., had to be overcome. The plant grown in southern Soviet Russia is, according to Viltchinsky, *Pelargonium roseum*, Willd, and on the coast of the Black Sea is cultivated as an annual plant, the cuttings of which have to be stored during winter. Since 1929 geranium is grown in the humid zones mainly of Abkhazia, also in Batoum, Sochi, the Crimea, and in the Middle Asiatic Republics. Originally the yield of plant material per hectar and the yield of oil were very low, and many efforts have been made to increase yield and to decrease cost of production by suitable fertilization, by the introduction of efficient rotation methods and by a high degree of mechanization.

According to a later report[5] fifteen tons of oil of geranium were produced in Soviet Russia during 1934, while in 1936 total production amounted to twenty tons. While several years ago some lots of Russian geranium oil reached American markets, it appears that lately Soviet Russia has withdrawn these products from the world market, probably employing them for home consumption. Though Russia's demand for geranium oil is certainly greater than its present production, and while larger quantities could probably be absorbed at home, it is nevertheless worthwhile for the American soap manufacturer to watch future Russian development.

Three lots of Russian geranium oil analyzed in our laboratories

(1) "American Perfumer and Essential Oil Review", June 1933, page 185.
(2) Bolle, Staz. Sper., Reggio 8 (1933), page 118.

(3) B. N. Rutowski and N. N. Makarowa-Semiljanskaja, "Die Riechstoff Industrie", 1929, page 172, page 193.
(4) "The Perfumery and Essential Oil Record", July, 1934, page 211.
(5) "The Perfumery and Essential Oil Record", October, 1937, page 385.

(*Turn to Page* 77)



A battery of modern stills for geranium oil production in Algiers.

SYNTHETIC DETERGENTS

A condensed bibliography of the literature on new synthetic wetting, detergent and emulsifying agents with particular reference to the alcohols and related compounds

(*Part* II)

By Charles E. Mullin, D. Sc.

THIS is a continuation of a bibliography of the literature on the newer synthetic wetting, detergent, and emulsifying agents, particularly the higher fatty alcohols and other alcohols and related compounds, their derivatives, occurrence, recovery, manufacture, purification, properties, testing, analysis, and uses. The first part of this bibliography appeared in the preceding issue of *Soap*, and covered the years from 1916 to 1931 inclusive. In this issue, the years, 1932 to 1936 inclusive are given. Bibliography of 1937 will be compiled and published at a later date this year.

1932

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(To be concluded in next issue)

TARIFF REVISION—

1938 Style

The trade treaty with England . . . what it may mean to U. S. producers of soaps, glycerine, disinfectants . . . if not killed by U. S. Courts . . .

By Arnold Kruckman
Washington, D. C.

THE tentative list of concessions which may be granted by the United States in its trade treaty with the United Kingdom, Newfoundland and the British Colonial Empire, includes a number of items of interest to American manufacturers of soaps, disinfectants, and allied products.

Industry and business has a curious tendency to overlook the significance of these "trade agreements." They are like all other contracts entered into by nations, with the exception that the so-called trade *agreements* may be negotiated and consummated by the American Secretary of State and the President, *without* the consent or approval of the Congress. Under our Constitution *treaties* are effective only when they have been formally approved by the Congress. These "trade agreements," however, presumably are not treaties in the full sense of the word, and the law, under which they are made, delegates these specific powers to the Department of State and the President.

Senator Borah, and other authorities on Constitutional law, hold that this delegation of power is unlawful, and that the "trade agreements" will be wiped out when a final test reaches the Supreme Court. There is a strong feeling in the Senate that this will be the eventual result, even though the New Deal faction now dominates the Court. It is pointed out that any concessions granted to the United Kingdom, Newfoundland and the British Colonial Empire, must also be granted to all other nations with which we have a "most favored nation" treaty. This not only demonstrates that the "trade agreement" is a treaty in the fullest sense, but that it affects our foreign trade widely in many aspects that do not immediately appear in the direct relations established with the particular nation with which Secretary of State Hull makes a contract. The "most favored nation" clause may effectively break down the tariff barrier that now exists as protection against an unnumbered group of competing nations.

At this stage of the proceedings, it is not possible to enumerate a complete schedule of the items. There are reasons for feeling that the schedule has been virtually completed, and that the terms of the mutual concessions by the United States and the British have been carefully worked out in detail during the past eighteen months of socalled "exploratory" conversations. But it is impossible to forecast the final results until the Committee for Reciprocity Information has completed hearings begun on March 4th. They are being held in Washington in the offices of the U. S. Tariff Commission.

The items listed below either have been formally announced as probable concessions by the U. S. Government, or are known to be regarded as concessions that will be made in the proposed treaty. The U. S. tariff in effect today is shown after each item.

Ammonium Carbonate	2c lb.
Adeps Lanae	3c lb.
Glycerine, refined	1 7/15c lb.
Sodium Chloride	11c 100 lbs.
Sodium Hydrosulfite	35%
Zinc Oxide	1¾c to 2¼c lb.
China Clay	$2.50 ton
Fuller's Earth	$1.50 to $3.25 ton
Feldspar	35%
Naphthalene	free
Creosote Oil	free
Cresols	40% and 7c lb.
Cresylic Acid	40% and 7c lb.
Palm Kernel Oil	3c lb. duty, or excise tax 3c lb.
Linseed Oil	4½c lb.
Stearic Acid	25%
Whale Oil	14c gallon
Degras	1 to 3c lb.
Wool Grease—	
more than 2% fatty acid content	1c lb.
less than 2% fatty acid content	2c lb.
Menhaden Oil	3c lb.
Copra	free
Oils, fats, and greases, not specially provided for	20%
Palm Nuts and Kernels	free
Teaseed Oil	free
Tallow	½c lb. duty, 3c lb. excise tax
Palm Oil	3c lb. excise tax
Patchouli Oil	12½%
Citronella Oil	free
Toilet Soap	30%
Soap, and Soap Powder, not especially provided for	15%
Bath Brick	25%
Blackings, powders, liquids, and creams for cleaning and polishing, not containing alcohol	25%

Tariff reductions conceded to

the United Kingdom will, of course, be various. The Law limits reduction of the U. S. tariff to 50 per cent; but it is not impossible that some items may, in effect, be reduced as much as 80 per cent or even more. This result is believed to be feasible by a maximum reduction in the import duty, plus a reduction in excise or whatever other domestic tax there may be in force upon an item. The State Department, and others, hold that the U. S. Tariff Commission is empowered by the Reciprocity Trade Agreement Act to make reductions in internal duties, such as excise taxes and similar domestic taxes.

There is considerable insistence in some quarters that the U. S. Tariff Commission exercise this implied power in connection with some items on the schedule of the trade agreement between the United Kingdom and the U. S. It is an untried authority, and the U. S. Tariff Commission seems doubtful of its validity. Therefore, it is still uncertain whether or not excise taxes will be affected. However, on the whole, it is believed that the reductions on the entire schedule affecting the soap and allied industries will average 50 per cent.

As has already been pointed out, the compact is specifically entered into with the United Kingdom, meaning England, Scotland, Wales and Northern Ireland; and with Newfoundland, and with the components of the British *Colonial* Empire. It should be understood that the British Colonial Empire does not directly include Canada, Australia, New Zealand, and other autonomous commonwealths of the Empire. The colonies are owned directly by England and include Nigeria, British Guiana, British Honduras, islands in the West Indies, Pacific, and parts of the Malay Peninsula, India, Africa, Asia and similar possessions. But the effect of the agreement will be to accord similar privileges to the Commonwealths in the British Empire by reason of the "most favored nation" clause.

It is interesting to note that the "most favored nation" clause does not apply to Germany or to Italy. The point is of interest because some of the items under discussion also come from these countries. Germany is Britain's principal competitor for dominance in the palm oil markets. Washington expects UK exports of these products to the United States will materially increase as a result of this trade agreement. Especially since it is quite probable that the domestic processing tax of 3c per pound on these oils *may be removed* in the United States. Washington expects the compact to be signed, sealed and delivered late in April, or early in May.

Official Washington believes this trade agreement will bring much additional palm oil and palm kernel oil into the United States from British African colonies which now goes mostly into the United Kingdom. This supply of oil, to some extent, is expected to lower prices and supplant the same oil the British now are shipping into the United States from the Belgian Congo. Commerce Department statistics indicate that over three-fourths of the wool grease brought into the United States already comes from the UK. The present imports of menhaden oil, approximately equal to the quantity produced in this country, come exclusively from the UK. Assuming the U. S. Tariff Commission will exercise its right, under the Reciprocal Trade Agreement Law, to remove the 3c per pound processing tax, it is anticipated the treaty will revive the importation of palm kernels, chiefly coming from the British colony of Nigeria. In 1932, 28,000,000 tons were imported. Cancellation of the processing tax would reduce the cost of palm kernels over 60 per cent. Washington believes this proceeding would bring the price of these oils back to a fairer level for American users.

In the matter of cresylic acid, cresols and other coal-tar products of which the United Kingdom is a large producer, it is understood that American manufacturers are making no move to forestall a reduction in the tariff. Apparently they believe that a reduction in duty of 50 per cent to a level of 20 per cent ad valorem and 3½c per pound which would amount to something over 40c per gallon, is ample protection. These products find wide use in the manufacture of disinfectants and synthetic resins in the U. S. Or else, the American producers believe that the Courts will throw out the whole treaty as illegal. At any rate, the reported chances of a cut in the rate on these coal-tar products is reported to be close to a certainty.

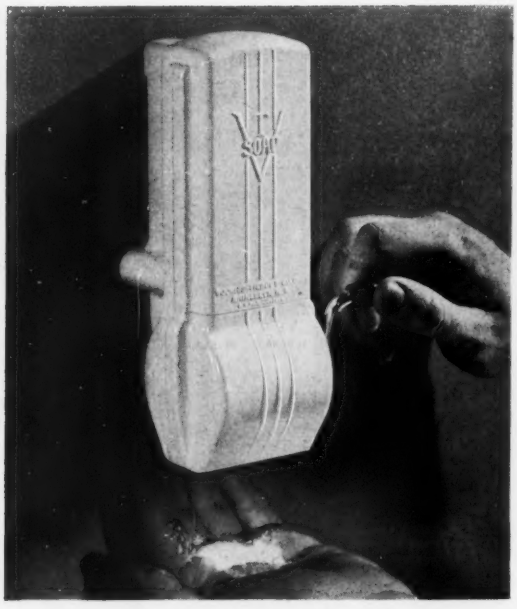
Concessions on glycerine are believed to favor the English soap manufacturer. While our imports are low, the UK is the chief U. S. source abroad. Reduction of the tariff on soap is considered certain. It will please the British and will make scarcely any difference to the American manufacturer, in the opinion of Washington officials. Last year's soap imports from the UK were valued at less than $50,000. It is pointed out that if the UK imports doubled they would scarcely reach a value of $100,000. However, Washington expects that American producers will oppose concessions on soap, not because of any fear of serious competition, but because the English manufacturer has access to important raw materials at prices far below which they can be obtained by U. S.

Incidentally, it is interesting to know that a trade treaty has been in process of crystallization for some time which has not even been announced informally. It is the treaty with the Argentine. The word in Washington is that the Argentine treaty will be revealed about the same time the British treaty is formally announced. The relation between the UK treaty and the Argentinian treaty is in the effect upon the American farmer. It is known the British will make concessions upon a large number of farm products from the United States. They will present a great market to American agriculture. But, by the same token, the United States will concede a relatively large number of tariff reductions in agricultural products to the Argentine. Argentine tallow is one item of particular interest. But there are yet the Courts to hear from in this entire business of scrapping the tariff law piecemeal.

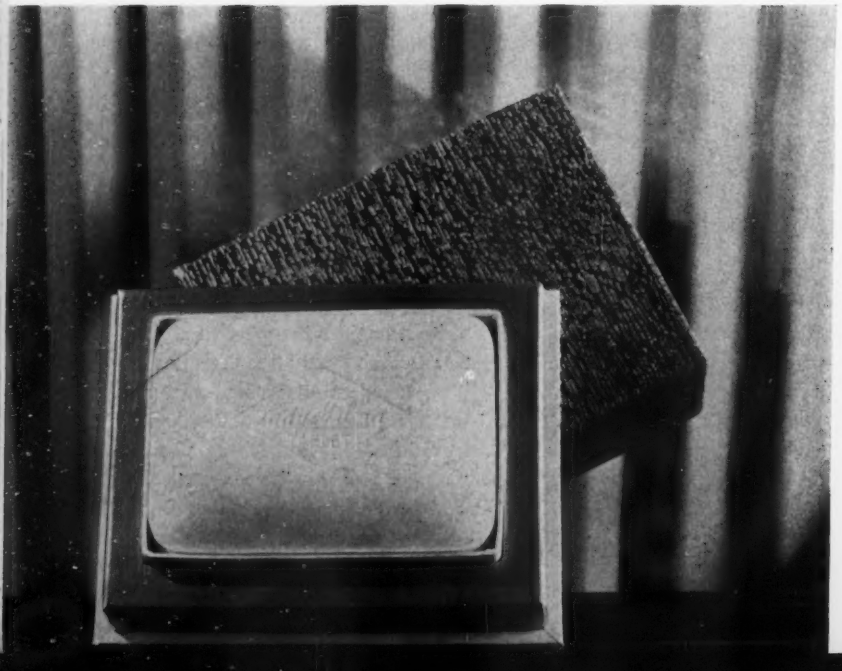
New Products



Charlie McCarthy, molded in soap, is a new novelty currently being featured by Kerk Guild, New York. The carton ties in with Charlie's radio broadcasts, picturing a "mike" for Station S.O.A.P.



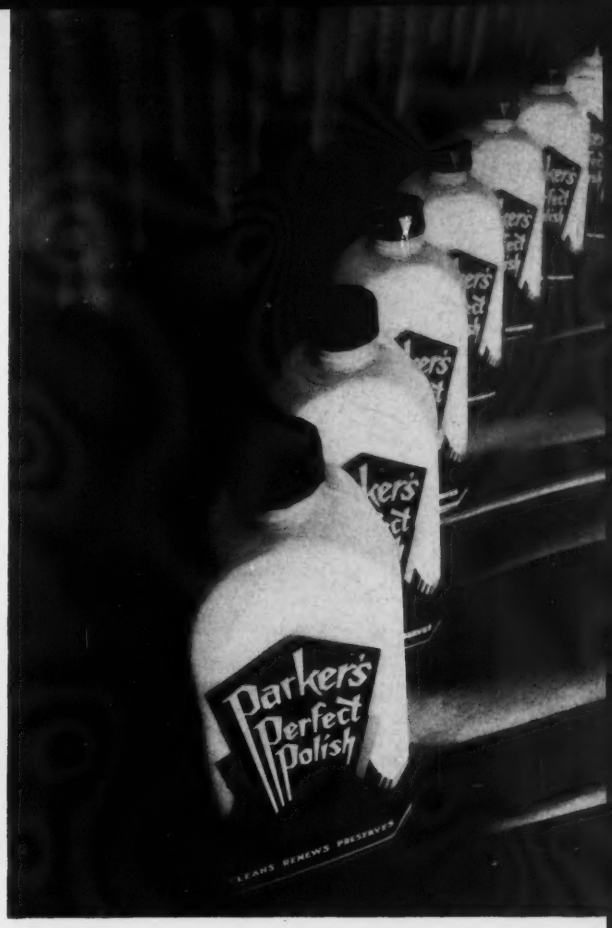
A new pulverizing soap dispenser made by Voorhis-Tiebout Co., Rhinebeck, N. Y., makes use of molded "Plaskon" instead of enamel or porcelain for the housing.



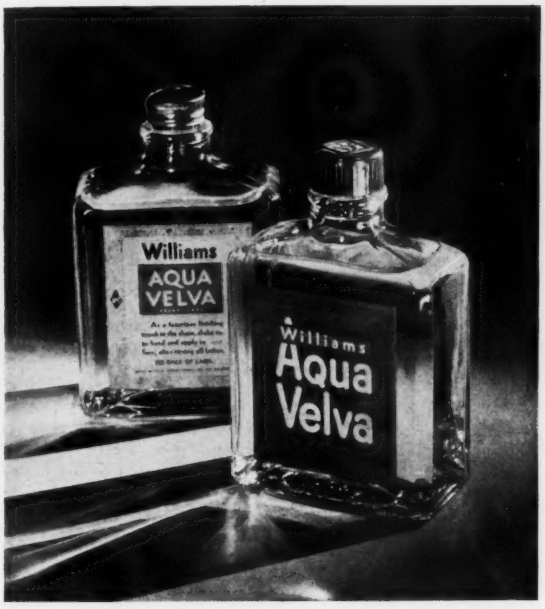
"Lady Wilma" is a new private brand soap made by George A. Schmidt Co., Chicago. Available in both lilac and bouquet odors, attractively packaged in a gold box.

and

Packages



C. W. Parker Co., Des Moines, has recently redesigned the package for its "Parker's Perfect Polish," with the aid of Owens-Illinois Glass Co. The black molded cap and the black label offer fine contrast to the white background.



J. B. Williams Co. has recently redesigned the container for its "Aqua Velva" after shaving lotion. Changes include less type on the label and substitution of a molded cap for the previous closure.



A family resemblance runs thru the entire line of cleaning fluids produced by Newerking Cleaning Fluid Co., New York. Gallon container by Superior, ½-gallon by National, and pints by Eastern.

TURNER

CAUSTIC POTASH

CARBONATE OF POTASH

CAUSTIC SODA

CHLORIDE OF POTASH

RED OIL

PETROLATUM **WHITE OILS**

INSECTI-SOL

(Colorless, odorless insecticide base)

Refined by Pennsylvania Refining Co., Butler, Penna.

For 75 years, the House of Turner has been serving users of chemicals.



JOSEPH TURNER & COMPANY

RIDGEFIELD, N. J.

83 EXCHANGE PL.
PROVIDENCE

630 FIFTH AVE., NEW YORK

40TH ST. & CALUMET
CHICAGO

News....

Soap Companies in New Hands

L. B. Talcott, of Phoenix, N. Y., has recently purchased the Savage Soap Co. and Eureka Soap Co., of Springfield, Mass. The two companies have in the past manufactured a mechanics' soap. Plans by the new owner are to remodel the factory buildings and install new machinery preparatory to adding a general line of soaps and cleaners. Factories will be operated at both Phoenix and Springfield.

Stokers Stage Soap Strike

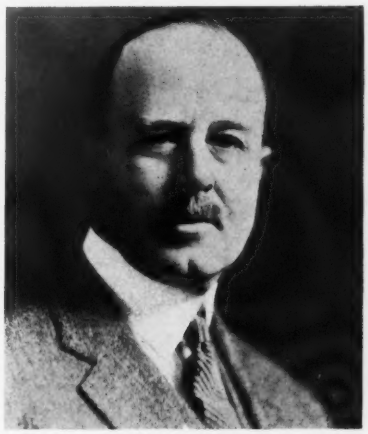
The stoker crew of the *S.S. Munargo* of the Munson Line, New York, forced a sit-down strike recently and won. The stokers were satisfied with the pay, working hours and everything else, but objected to the brand of soap supplied in their quarters. By installing "Palmolive" soap, says the "Palmolive" publicity department, the captain of the *Munargo* was able to settle the strike.

Report on Soap Sales Census

While the sale of soaps other than liquid in the United States for the year 1937 showed a decrease of 3.9 per cent in the number of pounds as compared with 1936, value in dollars increased 9.1 per cent as compared with 1936. Figures for the twelve months of 1937, just released by the American Association of Soap and Glycerine Producers, show the total tonnage of soap sold in the 12-month period to be 2,435,276,955 lbs., with a value of $247,671,219. Liquid soap sales totaled 1,813,848 gals., worth $1,644,703.

Huff Named P & G Vice-Pres.

Clarence J. Huff, general sales manager of Procter and Gamble Co., Cincinnati, has been elected vice-president in charge of sales. Richard R. Deupree, president of the company, said that the election of Mr. Huff rounded out the administration policy of having a vice-president in charge of each of the



Clarence J. Huff

four basic branches of the business — finance, buying, manufacturing and selling. Thomas J. Wood, manager of the Western division of Procter and Gamble, will succeed Mr. Huff as general sales manager. E. C. Moffat, formerly in charge of the Pacific Coast division, will be transferred to Cincinnati succeeding Mr. Wood. Paul Parrette, of the San Francisco office, will succeed Mr. Moffat.

Form Laundry Commission

The Metropolitan Laundry-owners' Commission, consisting of 350 power and 3,000 hand laundries in metropolitan New York, has recently been organized to study the problems confronting the laundry industry. Meetings will be held once a week at the offices of the *National Laundry Journal*, at 56 West 45th Street, New York. Among the matters which the committee plan to act on in the immediate future are reductions in city water rates, lower insurance rates for laundries, licensing fees and minimum wages for laundry workers.

Open New Soap Plant

Jaynes Photo Service, Mount Vernon, Ia., has opened a soap plant in that city, manufacturing liquid and powdered soaps to be packaged under private label.

Leverhulme to Visit Canada

Viscount Leverhulme, governor of Lever Bros. and Unilever, Ltd., London, will head a party of distinguished chemists from Great Britain who will attend the annual meeting of the Society of Chemical Industry in Canada, to be held June 17 to July 1. Most of the meetings will be held in Ottawa.

Begin Soap Industry Survey

A field survey of soap plants employing 5 workers or more in all parts of the United States was begun recently by the U. S. Department of Labor. The purpose of the survey is a report on the soap industry similar to those which have been made by the Department in the past on other industries, and to determine, under the Walsh-Healy Public Contract Acts, a prevailing minimum wage that must be paid by employers to workers engaged in making soap purchased on government contracts, exceeding $10,000 in amount. Minimum wage determinations have already been made by the Secretary of Labor for a number of industries, and others, including soap, are to be added to the list.

The survey has been planned to cover not less than 8,000 employees, or a 50 per cent sample of the soap industry. This takes in all shipping, yard and maintenance employees as well as those engaged directly in production, but does not include executives and non-working foremen. In plants where 50 per cent or more of the product is not soap, records will be taken where soap employees

are segregated in soap-making departments. Sworn agents of the Department of Labor's Wages, Hours, and Working Conditions Division are gathering the data for the survey.

In addition to collecting general information, details concerning wages paid and hours worked by individuals will be copied by the agents from company books. A tabulation of all the data will be made by the Department at Washington. All matter secured will be held strictly confidential, and no tabulations will be issued revealing information concerning any company. Regardless of whether or not soap plants bid on government business, they are subject to the survey. The object is to find out what at least half of the employees in the industry are being paid and the number of hours worked so that a prevailing minimum wage can be determined. Actual field investigations by inspectors from the Labor Department started February 15.

Agrees to FTC Stipulation

Richard Trading Corp., New York, wholesale dealer in leather saddle soap, has entered into a stipulation with the U. S. Federal Trade Commission agreeing to stop representing that its products comply with Government specifications. There are no general Government specifications, the stipulation points out, and "Bramford" soap sold by Richard Trading Corp. does not conform to special requirements of different agencies such as the Marine Corps and Army.

FTC Checks Mid-West Soap

J. W. McPheeters, Indianapolis, Ind., trading as both Mid-West Soap Co. and Savon Products, has been ordered by the U. S. Federal Trade Commission to stop representing by the use of fictitious price marks or other means that his soap has a retail price in excess of its actual retail value, or that such soap generally is retailed at a price in excess of the customary price at which it is actually sold to consumers.

Edgewater Strike Halted

A strike of 300 employees of the Edgewater, N. J., plant of Lever Brothers was settled recently, after a walkout at midnight had stopped all production. The strikers agreed to submit the dismissal of a union member to the Regional Labor Board for adjustment, while the management agreed to transfer to another plant one of its employees whose activities were objectionable to the union. The settlement came after a 4-hour conference at which Michael Kruglinsky, chairman of the executive committee of Local 21,257, Soap, Glycerine and Edible Oil Workers Union, and Hugh Jennings, A. F. of L. organizer, acted as spokesmen for the union, and Victor Serbell, plant manager, for the company. The Lever Brothers Edgewater plant manufactures vegetable oil shortening.

Colgate Files Suit

Colgate - Palmolive - Peet Co., Jersey City, N. J., recently filed suit in the New York State Supreme Court against Courtesy Drug Co., New York. The suit charges that the latter concern has been selling "Colgate Ribbon Dental Cream," "Palmolive Shave Cream," and "Palmolive Shampoo" in one of its stores below minimum fair trade prices established by Colgate.

Offer Cameo Cleanser

Cameo Corp., of Minneapolis, is offering two cans of a new Cameo Cleanser and an attractive two-color molded plastic container, designed to harmonize with kitchen or bathroom color schemes. After the first purchase, refill cans only are necessary. The container will accommodate only the Cameo brand of cleanser.

Robertet Appoints Fishbeck

Charles Fishbeck Co., New York, has been appointed sole representative in the United States of P. Robertet & Cie of Grasse, France. Robertet & Cie have been well known in the American market for the past forty years as suppliers of flower oils, resinoines and French essential oils. They are one of the largest houses in Grasse and have been established since 1850. Charles Fishbeck Co. will carry a complete line of the French concern's products in its New York office as well as at branch offices throughout the United States.

"Camay" Wholesale Price Raise

Procter & Gamble Co., Cincinnati, raised the wholesale price on "Camay" soap about 5 per cent at the end of last month. Prices of other products, it is reported, are expected to remain at present levels, which have been maintained since the beginning of the calendar year. In December, "Ivory," "Oxydol" and "Chipso" were reduced in price from 5 per cent to 7½ per cent.

Bon Ami 1937 Net Higher

Bon Ami Co., New York, reports a net income for 1937 of $1,391,282, after deductions for federal and foreign income taxes. This compares with $1,221,676 in 1936. The net income in 1937 equaled $6.71 each on 94,573 no-par shares of Class A stock, excluding those held by the company, and $3.78 each on 200,000 no-par shares of Class B stock. This compares with $5.89 a share on 92,647 shares of Class A and $3.38 a share on 200,000 shares of Class B stock in 1936.

"Shav-Ami" Mark Denied

Bon Ami Co., New York, has been upheld by the United States Court of Customs and Patent Appeals in its opposition to registration by McKesson & Robbins, Inc., New York, of the mark "Shav-Ami." McKesson & Robbins proposed to use it on a shaving cream. Bon Ami Company uses the mark "Bon-Ami" on soap, toothpaste and on a well-known cleansing compound. The court found that the goods were of the same descriptive properties and that marks were so similar that confusion might result.

Tyler Named Director

P. P. Tyler, former president of Lever Bros., Ltd., London, has been appointed managing director of Gypsum, Lime & Albastine, Canada, Ltd.

Hecker Sets Minimum Prices on "Gold Dust", "Silver Dust"

HECKER PRODUCTS CORP., New York, joined the group of soap manufacturers who have instituted price agreements under fair-trade legislation when officials of the company signed contracts with wholesalers in Chicago last month guaranteeing to maintain minimum prices for "Gold Dust" and "Silver Dust." White King Soap Co., Los Angeles, entered into fair trade contracts in 24 states some time ago. Colgate-Palmolive-Peet Co., Jersey City, N. J., recently entered into fair trade contracts in two states.

Simultaneous with the Hecker move, officials of the company announced that it was their intention to enter into similar wholesaler agreements in all of the 42 fair-trade states. They also revealed plans to follow up the agreements promptly with a special sales promotion campaign. As each market is brought under the agreements, Hecker will launch a special merchandising offer on "Silver Dust," supported by newspaper and radio advertising and house-to-house promotion.

Hecker officials pointed out that its fair-trade contracts differed from the White King agreements since the latter were based on a cooperative advertising agreement with dealers. Also that they differed from the Colgate agreements which are limited in scope and involve direct retailer contracts. In fact it was pointed out that Hecker's was the first nation-wide resale price maintenance effort in the grocery industry. Hitherto the fair-trade spotlight had rested almost exclusively in the drug field.

Whether the Hecker move will be followed by a general rush into fair trade in the field of grocery merchandising remains to be seen. A Hecker press release states: "With the makers of 'Gold Dust' and 'Silver Dust' taking the lead in the movement to assure reasonable wholesale profits, other manufacturers are expected to sign similar agreements with grocery wholesalers." At any rate, it is certain that the results of the Hecker action, in reference particularly to the efforts put behind the "Silver Dust" promotion campaign by wholesalers, will be closely watched.

Moreover, as *Printers' Ink*, advertising journal, points out in its issue of February 10th, "certain indirect consequences of the application of fair trade in the drug field are having grocery reverberations that are bound to reflect in increased pressure for action. Deprived of the possibility of pricing many drug products for store traffic purposes as a result of fair-trade agreements, some of the retail drug operators are replenishing their loss-leader rolls with grocery items. Some very attractive prices on such items as "Jell-O" and "Rinso" are being featured by drug stores. Grocery wholesalers and retailers are not pleased.

"It is to be noted that the Hecker transactions are exclusively a wholesaler affair. There are no retailer agreements and the effect on retail pricing will be of an indirect nature only. It is felt that policing of retailer agreements is not feasible under the present relatively unorganized condition of the grocery retailing structure.

"The contracts embody mark-up schedules evolved after many conferences with the wholesale grocery trade. The mark-up amounts to slightly more than 5 per cent. The minimum case price on the large package of 'Silver Dust,' for example, is $4.70. While 5 per cent does not cover the wholesaler's normal cost of doing business, it is considerably above the usual margin on soap lines, which, with canned milk and some dry cereals, are principal objects of price competition.

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"In selecting Chicago as a starting point, Hecker took a market which had developed into one of the worst in the country for cut-throat competition among wholesalers. In the struggle to get customers on the books, many houses were placing orders without profit or salesman's commission, and sometimes below cost. Some elements of the market at least, are in a highly receptive mood for anything that will help bring sanity to the current chaos.

"The 'Silver Dust' premium promotion offers a dish towel free with each large package, repeating a successful offer used when the item was first introduced. A new note, however, is the enclosing of the premium within the package. Through this device, trade favor is expected on the basis that it eliminates the wholesaler and retailer complaint anent the extra handling usually involved in dealing with store-distributed premiums."

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Launch Record Campaign

Fels & Co., Philadelphia, have announced that "Fels-Naphtha Soap Chips" and "Fels Naphtha Soap" will be backed in 1938 by the largest advertising campaign ever staged for the two products. Seventy newspapers in twenty-three states, with a combined circulation of 20,000,000, and twenty-seven leading national magazines with a total circulation of almost 32.000,000, together with the Sunday comic sections of the newspapers will be used. The elimination of "Tattle-tale gray" will continue to be the theme of the campaign. In addition, the Sunday comic advertising will offer a sport handkerchief free in connection with the soap chips campaign.

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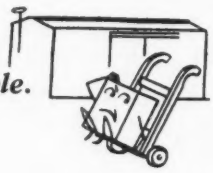
Brock Chemical Co. is the name of a new concern located at Abington, Mass., engaged in supplying chemical specialties used in shoe manufacturing.

IT CAN HAPPEN TO YOUR PRODUCT!

A manufacturer of a widely distributed product



located in a mid-western city was having trouble.



Somewhere along the line from the factory to the consumer





something happened to his product.

After much investigation starting with its manufacture through packing, shipping, the retailer and finally the consumer—he discovered the reason—deterioration due to improper packaging.

Then a frenzied search for a new container started. After many packaging consultations were held without solving his difficulty, Continental was called in to assist.

Needless to say there would be no point to this story if we had not solved his problem. But this is typical of what occurs daily. Sometimes it may be only a simple matter such as a new type of closure or a newly developed container which has remedied the situation.

Then, more serious, the product itself might require laboratory research to control some phase of its composition after shipping.

No matter what your difficulty or problem, Continental is prepared to offer any manufacturer a complete service which includes research, development, packaging design, and marketing. It will pay you to investigate Continental first.

CONTINENTAL CAN COMPANY

NEW YORK CHICAGO SAN FRANCISCO
MONTREAL TORONTO

Committee D-12 to Meet

Committee D-12 on soaps and detergents of the American Society for Testing Materials will meet at the Hotel New Yorker, New York, March 7 and 8. Special groups will meet individually on March 7th and the general meeting of the full committee will be held the afternoon of March 8th. This meeting will be preceded by a group luncheon. Among business scheduled for the sessions is the election of officers for the coming two years. J. B. Crowe has been appointed chairman of the nominating committee by Harry P. Trevithick, present D-12 committee chairman.

J & J Special Soap Offer

Johnson & Johnson, New Brunswick, N. J., is making a free offer in its line of baby products, including soap, to all consumers making quantity purchases, effective March 1. The purpose of the offer is to promote big volume sales of baby products at the present time as well as during the hot weather season. The terms of the offer call for one free cake of "Johnson's Baby Soap" with each dozen cakes purchased.

Chicago Soap Group Meets

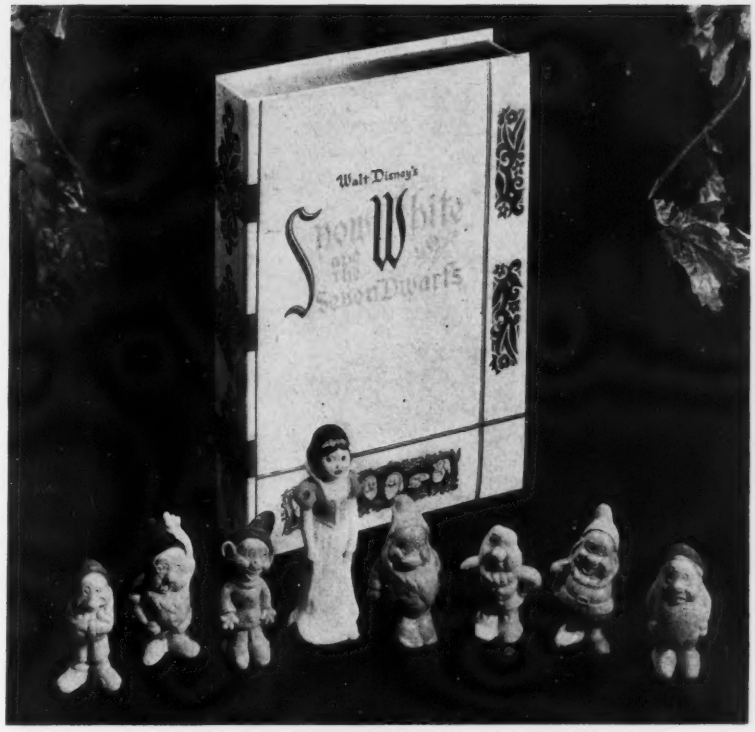
The Chicago Perfumery, Soap and Extract Association met February 8th at the Lake Shore Drive Hotel. The new president, W. Kedzie Teller, presided. Following the routine business meeting, entertainment was provided by Frank Shepard, comedian and sleight-of-hand artist.

P&G Offers "Special Drene"

Procter and Gamble Co., Cincinnati, has brought out "Special Drene for Dry Hair," as a companion product to its regular "Drene Shampoo."

Colgate Among Winners

Colgate - Palmolive - Peet Co., Jersey City, was among the winners in the fifth annual packaging competition for outstanding 5 or 10 cent packages conducted by the *Syndicate Store Merchandiser*. The judges picked "Halo Shampoo," new Colgate product, as one of the ten best 5 and 10 cent packages introduced during 1937.



Latest of the Walt Disney characters to be modeled in soap by Lightfoot Schultz Co., Hoboken, N. J., are Snow White and the Seven Dwarfs. Following the success of the film, tremendous sales are anticipated.

Rosenthal Joins Wrisley

Max P. Rosenthal, formerly with Cincinnati Soap Co., Cincinnati, is now with Allen B. Wrisley Distributing Co., Chicago, as special division sales manager. Mr. Rosenthal had been with Cincinnati Soap for twenty-one years previous to his present connection, fifteen of which were spent as sales manager for that company.

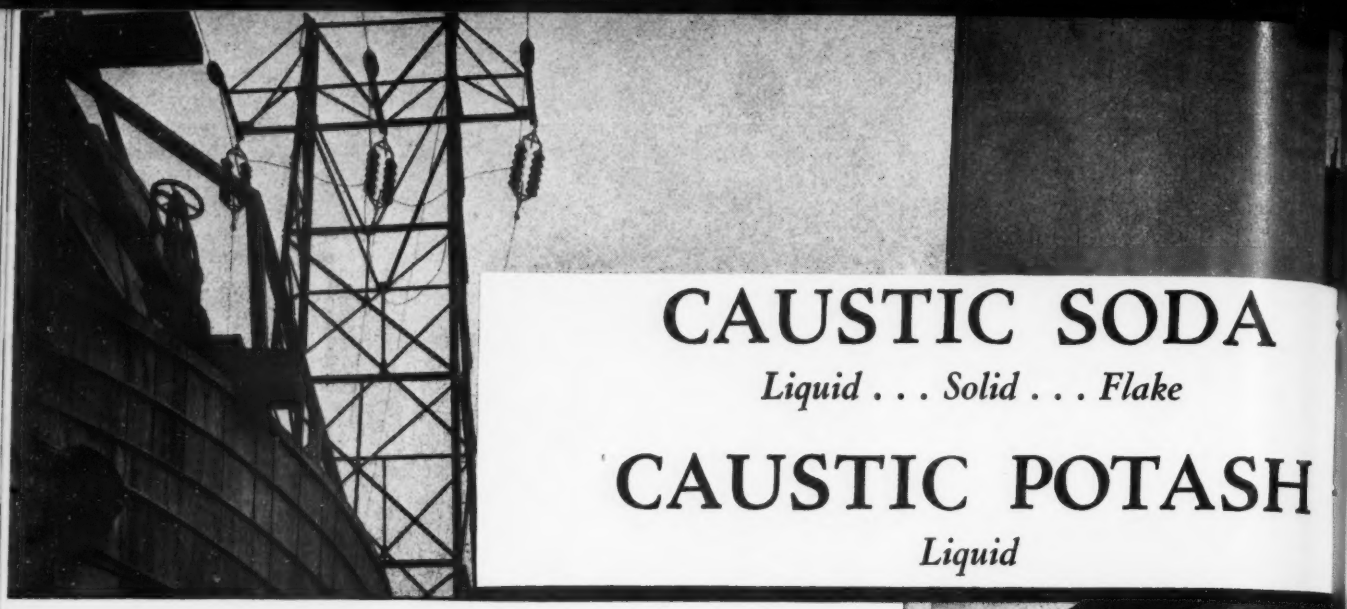
To Promote Feldspar Cleanser

Tri-State Development Co., Washington, has announced plans for a national advertising campaign for a new household cleanser. The company has erected a building near Burnsville, N. C., and has signed a contract with Feldspar Milling Co., Bowditch, N. C. The new cleanser is based upon a formula which uses 90 per cent feldspar to make a very fine powder. The product has been tested by laboratories and the findings will be used in the advertising campaign. In addition, Tri-State will manufacture a mechanics' soap, a floor cleanser and a silver polish, all made from feldspar dust.

Wants Household Cleaners

A concern in Heerle, Netherlands, is interested in communicating with American manufacturers of household cleaning compounds relative to purchase or agency arrangement. Inquiries may be forwarded to the U. S. Bureau of Foreign and Domestic Commerce, Washington, mentioning inquiry No. 5374.

G. Keller, general manager of Schimmel & Co., New York, who has been away on a three-months' trip to Germany, France and England, will return to New York sometime during the first week in March.



CAUSTIC SODA

Liquid . . . Solid . . . Flake

CAUSTIC POTASH

Liquid

CARBON TETRACHLORIDE

99.995%



"EARLIEST PRODUCTION IN THIS COUNTRY"

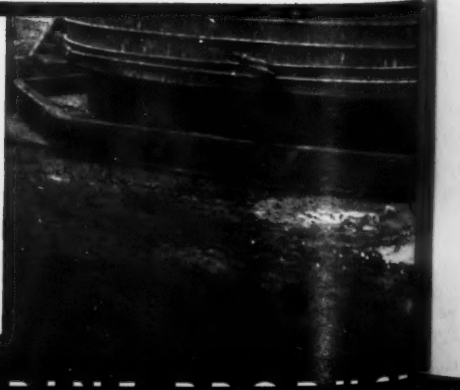
TRI-SODIUM PHOSPHATE
DI-SODIUM PHOSPHATE

ALSO MIXED DETERGENTS COMPOUNDED
TO MEET USERS' OWN SPECIFICATIONS

TETRA SODIUM PYRO PHOSPHATE

(Neutral Pyro)

AN OPPORTUNITY TO SUBMIT SAMPLES AND QUOTATIONS IS SOLICITED



WARNER CHEMICAL COMPANY

Pioneer Producers since 1886

STANDARD WARNER CHEMICALS

CHRYSLER BUILDING NEW YORK CITY
155 EAST SUPERIOR STREET, CHICAGO
70 RICKARD STREET, SAN FRANCISCO

Ray Leaves Iowa Soap

Elos A. Ray resigned as executive vice-president of Iowa Soap Co., Burlington, Iowa, at the annual meeting of the company February 8th. He has not as yet announced definite plans for the future, but advises that he contemplates starting his own business. Mr. Ray was at one time manager of the eastern division of Iowa Soap Co. at Camden, N. J. Prior to joining Iowa Soap Co. he had been connected with Potter Drug & Chemical Co., Malden, Mass., maker of "Cuticura" soap.

Colgate Offers Books

Colgate - Palmolive - Peet Co., Jersey City, has launched a promotional campaign offering well known books representing values up to $2 each with the sale of ten of its leading articles. Customers may obtain any one of the books offered by purchasing one of the ten articles and mailing its carton panel and forty cents to the company's headquarters.

Launch Test Campaign

Eusey Co., Ltd., Pasadena, Calif., is launching a newspaper test campaign on "Zemo" perfumed bath scent. The product is made with borax and is used as a bath sweetener, shampoo, washing compound and cleaner.

P&G to Award Soap Prizes

Procter and Gamble Co., Cincinnati, will again award prizes in the 14th annual Soap Sculpture Contest for amateurs, which closes May 15. Prizes of from $10 to $200 will be awarded to winners in three classes. It is anticipated that the number of entries this year will exceed those of last year.

Woodbury Complaint Upheld

John H. Woodbury, Inc., Cincinnati, has been granted a permanent injunction in United States District Court, New York, enjoining William A. Woodbury Corp., William A. Woodbury Sales Co., William A. Woodbury, Inc., and Regal Laboratories, Inc., all of New York, from use of the name "Woodbury" in connection with the manufacture or sale of soap and toilet products. In handing down the decision, Judge Knox of the U. S. District Court pointed out that from 1930 to 1936 the plaintiff had spent $6,592,530 for advertising, and as a result "Woodbury" has become identified in the public's mind with products of John H. Woodbury, Inc.

Charge Chlorine Monopoly

Leading American producers of liquid chlorines have been charged by the U. S. Federal Trade Commission with engaging in a combination to fix uniform prices for their product. The companies, which are said to manufacture substantially all of the liquid chlorine produced in the United States for commercial and industrial purposes, are as follows: Mathieson Alkali Works, Electro Bleaching Gas Co., Solvay Sales Corp., Hooker Electrochemical Co., Columbia Alkali Corp.; all of New York. Also, Diamond Alkali Co., Pittsburgh; Belle Alkali Co., Belle, W. Va.; Monsanto Chemical Co., St. Louis; and Pennsylvania Salt Mfg. Co., Philadelphia. The complaint charges that the companies named entered into a combination in 1931 under which they agreed to fix and maintain prices for liquid chlorine. It further alleges that that the companies have divided the United States into zones for a price fixing program. As a result, according to the complaint, price competition has been prevented in the sale of liquid chlorine and a monopoly has been created.

A.D.M.A. To Meet May 2-5

Reservations are being received for the 1938 annual meeting of the American Drug Manufacturers Association, to be held May 2 to 5 at the Greenbrier Hotel, White Sulphur Springs, W. Va. Special hotel rates are available to members for three days in advance of the opening of the convention and for three days after the close. Reservations should be addressed to George D. O'Brien, Greenbrier Hotel, White Sulphur Springs, W. Va.

P&G Shares $753,000 Profits

Procter and Gamble Co., Cincinnati, distributed $753,000 in profit-sharing dividends last month to employees throughout the United States and Canada. This compares with $659,000 distributed at the same time a year ago.

Oil Trades to Elect

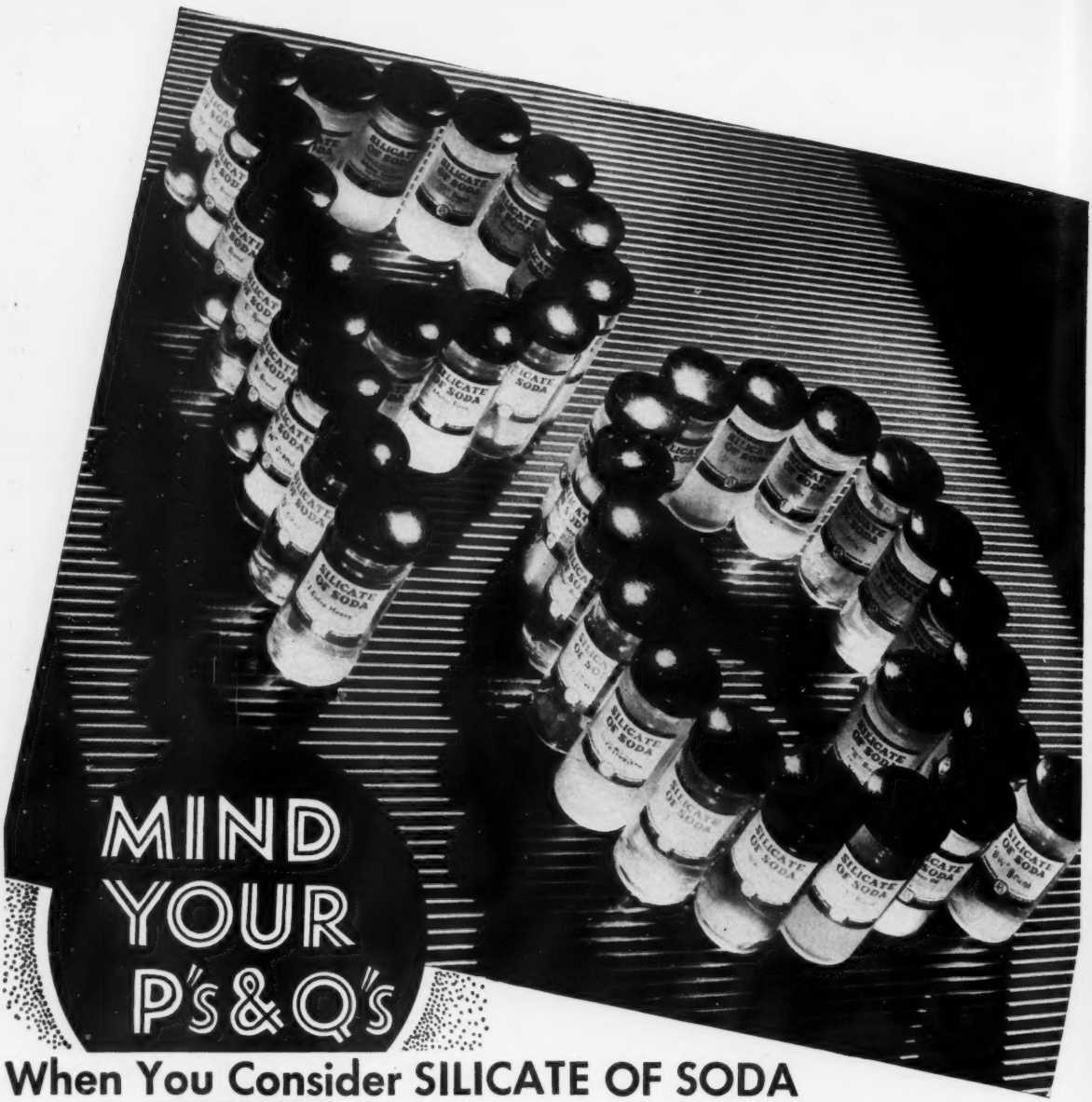
The regular annual meeting and election of officers of the Oil Trades Association of New York will be held at the Waldorf-Astoria Hotel, New York, March 22. The following officers have been nominated: for president, Joseph C. Smith, Smith-Weihman Co.; for vice-president, William H. Correa, Socony-Vacuum Oil Co.; for secretary, Albert J. Squier, Squier-Sanderson Co.; for treasurer, Rudolf G. Sonneborn, I. Sonneborn Sons; for directors in addition to those named, Charles V. Bacon, Charles V. Bacon Co.; John W. Baker, Philippine Refining Corp. of New York; C. V. Beaton, Shell Union Oil Corp.; J. H. Blakney, Colgate-Palmolive-Peet Co.; J. A. Britton, Jr., Standard Oil Co. of N. J.; Dart E. Hoffman, Tide Water Oil Co.; M. W. Osborn, Zimmerman Alderson Carr Co.; Kenneth L. Patterson, Stanco Distributors, Inc., and John F. Renick, Renick & Mahoney, Inc. A dinner in the hotel Roof Garden will precede the elections.

Hecker Appoints Henry

Hecker Products Corp., New York, announced the appointment recently of William Henry as assistant general manager of the Hecker-H-O-Division.

COMING!

Abrasives for scouring powders,—low cost soap perfuming,—a study of pumice soap costs and manufacture,—safety in the soap plant,—bleaching of soap oils and greases,—these are a few of the subjects which will be discussed in the next few issues of *Soap*. Do not miss any of them!



When You Consider SILICATE OF SODA

EVEN back in the sixties when the use of silicate was still young in America, the soap manufacturers knew that silicate of soda was made in various forms. Then began the custom of addressing P.Q. as Silicate Headquarters.

From a company publication dated shortly after 1864, we quote "Many persons who are desirous of trying experiments with reference to the uses of silicate of soda, are often at a loss to designate what particular form of silicate will answer their purpose best . . . The Philadelphia Quartz Company aim to furnish Silicate of Soda in whatever form or strength there may be a demand for it."

Today the soap manufacturer has a line of 33 P.Q. Silicates of Soda to enable him to meet demands for new products and new detergent properties. Are you familiar with these silicates? Ask for a copy of Bulletin 171, which describes them.

ESTABLISHED 1831

PHILADELPHIA QUARTZ CO.

General Offices and Laboratory: 125 S. Third St., Phila., Pa.
Chicago Sales Office: Engineering Bldg. Stocks in 60 cities.
Sold in Canada by National Silicates Ltd., Toronto, Ont.

Works: Anderson, Ind., Baltimore, Md., Chester, Pa., Buffalo, N.Y., Kansas City, Kans., Rahway, N.J., St. Louis, Mo., Utica, Ill.

Contracts Awarded

Low Chip Soap Bidders

Procter and Gamble Distributing Co., Baltimore, and John T. Stanley Co., New York, were both low bidders on 4,025 lbs. of chip soap in a recent opening by the quartermaster of the U. S. Marine Corps at Washington, with quotations of 6.95 cents each.

Jeffersonville Soap Awards

Colgate - Palmolive - Peet Co., Jersey City, N. J., was recently awarded a contract for 250,000 lbs. of laundry soap in a recent opening by the U. S. Army Quartermaster at Jeffersonville, Ind., with a price of 3.4c. On 8,000 lbs. of naphthalene, Harshaw Chemical Co., Philadelphia, was awarded the contract at 7.25c per lb.

Toilet Soap Award

Hecker Products Corp., New York, was awarded a contract for 125,000 cakes of toilet soap in a recent opening by the Bureau of Supplies, U. S. Treasury Dept., Washington, at a price of 2.349c per cake.

Low Grit Soap Bidder

Colgate - Palmolive - Peet Co., Jersey City, N. J., was low bidder on 3,500 lbs. of grit soap in a recent opening by the U. S. Post Office Dept. at Washington, with a quotation of 6.44 cents.

Sanitary Receptacle Award

West Disinfecting Co., Long Island City, N. Y., was awarded a contract for 24 sanitary floor receptacles in a recent opening by the U. S. Post Office Dept. at Washington, at a price of $3.25 each.

Philadelphia Soap Awards

Armour & Co., Philadelphia, were awarded the contract on 4,000 cakes of grit soap in a recent opening by the U. S. Engineers Corps, Philadelphia, with a price of $7.168 per 100 lbs. On 10,000 cakes of toilet soap, Swift & Co., Philadelphia, were awarded the contract at a price of $7.60 per 100 lbs. On 10,000 cakes of laundry soap, Swift & Co. were also awarded the contract at a price of $4.00 per 100 lbs.

Brooklyn Peptone Award

Paul-Lewis Laboratories, Milwaukee, has been awarded a contract for 200 bottles of peptone in a recent opening by the U. S. Medical Supply Depot in Brooklyn, at a price of $2.08.

C.S.A. Installs Officers

New officers of the Chemical Salesmen's Association were to be installed March 3 at a luncheon meeting at the Waldorf-Astoria Hotel, New York.

Smith L. Rairdon Promoted

Smith L. Rairdon, eastern sales manager of the glass container division of Owens-Illinois Glass Co., Toledo, Ohio, has been recently elected vice-president and general sales manager and a director of Owens-Illinois Can Co., that city. He has returned from New York City to the Toledo headquarters to assume his new duties. Mr. Rairdon joined the old Owens Bottle Company in 1924, before that company was merged with Illinois Glass. In 1930, shortly after the merger of Illinois Glass and Owens Bottle, Mr. Rairdon was appointed assistant sales manager of the newly affiliated organization's pharmaceutical and proprietary division, and a year later was made sales manager. In 1935, he was appointed eastern sales manager and assistant general sales manager. Mr. Rairdon is a graduate of Ohio State University, at Columbus, Ohio. Edward F. Glacken has been appointed eastern sales manager of Owens-Illinois Glass, succeeding Mr. Rairdon. He had formerly been sales manager of the company's dairy container division with headquarters in Toledo. H. P. Blodgett has been made assistant to Mr. Glacken.

Committee Submits Report

The committee for re-organization of the New York Stock Exchange, which was headed by Carle C.



Carle C. Conway

Conway, chairman of the Board of Continental Can Co., New York, recently completed its work and submitted its recommendations. Radical changes in policy and administration were suggested which it is said, have met with the approval of the public as well as business and official Washington.

Protest Soap Duty Cut

Briefs outlining the reasons why present duties on glycerine, soaps and soap powders should not be considered for reduction in connection with the present trade treaty being negotiated with the United Kingdom, were filed by the Association of American Soap and Glycerine Producers last month. The facts in brief form were submitted to the Committee for Reciprocity Information of the U. S. State Department which has been investigating products for prospective tariff reduction. Although these briefs are not available for publication, copies will be sent to individual soap manufacturers who are interested if they will communicate with the office of the association at 381 4th Ave., N. Y.

Substitute GOOD ODORS for BAD

SUBSTITUTE the good odor of **ALDAROMES** for the pungent, irritating odor of formaldehyde. This long awaited group of pure compounded aromatics and essential oils is the latest achievement of our technical laboratories. Their use in your various formaldehyde sprays and disinfectants in the proportion of one-half ounce of **ALDAROME** to one gallon of 40% formaldehyde will produce a clear, stable, pleasantly scented solution . . . a product far more agreeable to use and therefore more acceptable to the customer. Samples of these effective, low cost specialties are available upon request.

SUBSTITUTE good odor in your fly sprays and insecticides for the odorous, sales-retarding effect of their basic chemical constituents. Make your product one that the most fastidious housewife can use without misgivings . . . make it a **better** product by odorizing it with one of our cataloged, guaranteed specialties. These represent the chosen few of thousands of tested aromatic compositions made by our chemists to insure the manufacturer a choice selection and range of perfumes for every conceivable, technical need. Write us, describing your product, or better still, send us an unperfumed sample. We'll perfume it as we think best and return it promptly for your approval . . . or rejection . . . and without obligation, of course.

SUBSTITUTE good odor for bad in your naphthalene and paradichlorbenzene blocks by using **PARAPASTELS.** This group of Fritzsche Brothers' specialties kills the unpleasant character of the product, substitutes a clean, refreshing fragrance and colors the block with any one of many attractive pastel tints—three accomplishments in one operation. Thus, the use of **PARAPASTELS** simplifies production, lowers costs and increases the consumer's preference for your product. Twenty-four skillfully blended combinations provide a wide selection of odors and colors. If interested, write for full details.

FRITZSCHE *Brothers, inc.*

816 WEST 8TH STREET LOS ANGELES, CAL.
Proprietors of PARFUMERIES de SEILLANS Seillans, France
FRITZSCHE BROTHERS, of Canada, Ltd., 77-79 Jarvis St., Toronto, Canada

PORT AUTHORITY COMMERCE BLDG.
76 NINTH AVENUE, NEW YORK, N. Y.
118 WEST OHIO ST. CHICAGO, ILL.

Substitute
ALDAROMES

ALDAROME LILY No. 7	lb.	$3.25
ALDAROME LILAC No. 23	lb.	3.50
ALDAROME JASMINE No. 24	lb.	2.00
ALDAROME LAVENDER No. 25	lb.	2.25
ALDAROME BOUQUET No. 123 Fruity Type	lb.	2.75
ALDAROME BOUQUET No. 124 Heliotrope Type	lb.	3.00
ALDAROME BOUQUET No. 125 Fruity Type	lb.	3.50
ALDAROME BOUQUET No. 126 Sweet, Vanillin Type	lb.	3.50
ALDAROME PINE No. 13	lb.	2.50

Substitute
INSECTICIDE PERFUMES

LAVENDER No. 29	lb.	1.50
LILAC No. 28	lb.	1.50
ROSE No. 33	lb.	2.00
INDIAN HAY No. 5	lb.	3.00
ORANGE BLOSSOM No. 21	lb.	1.50
PINE No. 14	lb.	1.50
BOUQUET No. 149 (Vanilla Type for use around foodstuffs)	lb.	3.00
CEDAR No. 5	lb.	2.00
VIOLET No. 13	lb.	1.50
LILY No. 8	lb.	4.00
CLOVE No. 5	lb.	3.25
CORYLOPSIS No. 6	lb.	3.00
HONEY No. 6	lb.	2.50

. . . and OTHERS

Substitute
PARAPASTELS
(Perfume-Color Combinations)

JASMINE (YELLOW) No. 28	lb.	$2.50
TREFLE (GREEN) No. 9	lb.	2.00
ROSE (OLD ROSE) No. 34	lb.	2.25
LILAC (VIOLET) No. 29	lb.	2.00
NARCISSUS (PINK) No. 8	lb.	4.00
VIOLET (BLUE GREEN) No. 12	lb.	2.50
PINE (GREEN) No. 15	lb.	1.75
HONEYSUCKLE (ORANGE) No. 13	lb.	3.50
CARNATION (RED) No. 11	lb.	2.50
LAVENDER (BLUE) No. 30	lb.	3.00

. . . and OTHERS

"Fragrance Creates Sales Appeal"

Spanish Edition of U.S.P.

A new Spanish edition of the U. S. Pharmacopoeia, the fourth edition to be translated into that language, has just been published by the Board of Trustees of the U. S. Pharmacopoeial Convention. The edition was translated under the auspices of the Pan American Sanitary Bureau in Washington, and runs to 695 pages. The book can be obtained at The Business Publishers International Corporation, 330 West 42nd St., New York.

Ann M. DeLorme Dies

Mrs. Ann M. Delorme died February 16th in Chicago. Mrs. DeLorme was the wife of Joseph DeLorme, head of Riviera Products Co. and a well-known figure in the Chicago essential oil trade.

Hold Drug Dinner March 3

The 1938 Drug, Chemical and Allied Trades Dinner was to be held March 3 at the Waldorf-Astoria Hotel, New York. Donald R. Richberg and Wheeler McMillen, president of the Farm Chemurgic Movement, were to be the guest speakers.

Lentheric Gets Injunction

Lentheric, Inc., New York, perfumer house, was recently granted a preliminary injunction restraining Nevins Drug Co., Philadelphia, from selling Lentheric products at less than the prices shown in its catalog and in its contracts with distributors.

Cecil Smith Back From Cruise

Cecil Smith, president of Yardley & Co., New York, recently returned from a pleasure cruise on the *Empress of Australia.*

Launch New P&G Show

Procter & Gamble Co., Cincinnati, recently began a series of quarter-hour broadcasts by electrical transcription over 15 stations in New York, Honolulu, Canada and the Pacific Coast. The programs are musical shows featuring Allen Prescott, with Joey Nash and others as guest stars.

You can save on

PERFUMING COSTS

. . . and still maintain quality

BERGAMOT ARTIFICIAL NORDA is the answer. It meets the most exacting requirements . . . and in view of the present high price of the natural oil, BERGAMOT ARTIFICIAL NORDA offers a material saving in perfuming cost without sacrifice of quality.

Ask NORDA for further details.

Norda

ESSENTIAL OIL and CHEMICAL COMPANY

Chicago Office
325 W. Huron St.

Los Angeles Office
685 Antonia Ave.

St. Paul Office
Pine and E. 3rd St.

Canadian Office
119 Adelaide St., W., Toronto

New York Office
601 West 26th St.

Southern Office
Candler Annex Bldg., Atlanta, Ga.

New Trade Marks

The following trade-marks were published in the February issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

CO-OP—This in solid letters within circular design bearing the words "National Cooperatives," describing fly spray. Filed by National Co-Operatives, Inc., Indianapolis, Nov. 24, 1937. Claims use since 1929.

ROTOFUME—This in solid letters within rectangle describing insecticides. Filed by Andrew Wilson, Inc., Springfield, N. J., Nov. 29, 1937. Claims use since Nov. 21, 1932.

SPRA-KYL—This in solid letters represented as issuing from nozzle of sprayer describing insecticides. The word "Spra" is disclaimed apart from the mark. Filed by Philadelphia Chemical Co., Philadelphia, Dec. 1, 1937. Claims use since April 15, 1937.

SPOREDYNE—This in solid script describing antiseptic. Filed by Mayfair Pharmacal Co., Dayton, O., Dec. 2, 1937. Claims use since October, 1935.

Fanciful design showing man and woman holding hands surrounded by sprigs of flowers, describing saponaceous compounds. Filed by Shulton, Inc., New York, Dec. 18, 1937. Claims use since April 2, 1937.

NOVOXIL—This in solid letters describing antiseptic. Filed by E. R. Squibb & Sons, New York, Nov. 11, 1937. Claims use since Nov. 3, 1937.

Geometrical design in the shape of a shield describing cleaning solvent. Filed by Standard Oil Co. of California, San Francisco, Nov. 12, 1937. Claims use since May 23, 1936.

MONITOL—This in solid letters with a drawing of a screw worm, describing disinfectants, insecticides and germicides. Filed by Harley A. Montgomery, Detroit, Nov. 18, 1936. Claims use since April 1, 1935.

TS—This in outline letters on reverse plate in the shape of two hearts linked together, describing toothbrush sanitizing preparation. Filed by Toothbrush Sanitizer Co., Los Angeles, Dec. 3, 1937. Claims use since Nov. 9, 1937.

SANIT-AIR—This in shaded letters describing deodorants and disinfectants. Filed by Electro Ball Co., Dallas, Dec. 9, 1937. Claims use since Dec. 2, 1937.

HI-CYAN — This in stenciled letters describing cyanides. Filed by General Chemical Co., New York, Nov. 24, 1937. Claims use since Oct. 13, 1937.

TECNIK—This in solid letters describing cleaning compounds. Filed by Turco Products, Inc., Los Angeles, Nov. 12, 1937. Claims use since Sept. 15, 1937.

MACY'S—This in solid letters describing soaps and cleaners. Filed by R. H. Macy & Co., New York, Nov. 13, 1937. Claims use since 1928.

FIBRELENE—This in solid letters describing soap. Filed by Midland Chemical Laboratories, Dubuque, Ia., Dec. 4, 1937. Claims use since Nov. 13, 1937.

ALO—This in outline letters reading vertically, describing cleanser. Filed by Marcia Blier, New York, Dec. 6, 1937. Claims use since Nov. 27, 1937.

Fanciful design of woman with dog surrounded by sprigs of flowers, describing saponaceous compounds. Filed by Shulton, Inc., New York, Dec. 16, 1937. Claims use since April 2, 1937.

Fanciful design of woman with flower surrounded by sprigs of flowers, describing saponaceous compounds. Filed by Shulton, Inc., New York, Dec. 16, 1937. Claims use since April 2, 1937.

KLENLEE—This in solid letters describing soap. Filed by Commercial Soap and Chemical Co., San Francisco, July 10, 1937. Claims use since April, 1937.

SHAV PAK—This in solid letters describing shaving soap. Filed by Bourjois, Inc., New York, Aug. 5, 1937. Claims use since July 9, 1937.

GC—This in stenciled letters describing detergent. Filed by General Chemical Co., New York, Sept. 15, 1937. Claims use since August, 1934.

IRRESISTIBLE — This in solid script describing soaps. Filed by Maison Joubert, New York, Oct. 19, 1937. Claims use since Oct. 5, 1937.

KWIKILL—This in solid letters describing insecticides. Filed by Commercial Soap and Chemical Co., San Francisco, July 10, 1937. Claims use since April 1, 1937.

MP MAIN PROCESS—This in solid letters within circles, describing germicides. Filed by Main Laboratories, Olympia, Wash., Sept. 2, 1937. Claims use since Feb. 1, 1937.

SULPHASOL—This in solid letters with drawing of dog being bathed, describing medicated shampoo for dogs. Filed by Zenith Products Co., Wellsville, Ohio, Dec. 4, 1937. Claims use since Nov. 1, 1936.

SMICO—This in solid letters describing household insecticide. Filed by Smith Mfg. Co., Utica, N. Y., June 23, 1937. Claims use since Aug. 30, 1921.

IRWINITE—This in solid letters describing insecticide. Filed by James B. Irwin, Coral Gables, Fla., Sept. 4, 1937. Claims use since March, 1934.

EFFANTAB — This on reverse plate, diamond shaped. Filed by Effantab Products, Inc., New Rochelle, N. Y., Sept. 11, 1937. Claims use since Aug. 30, 1937.

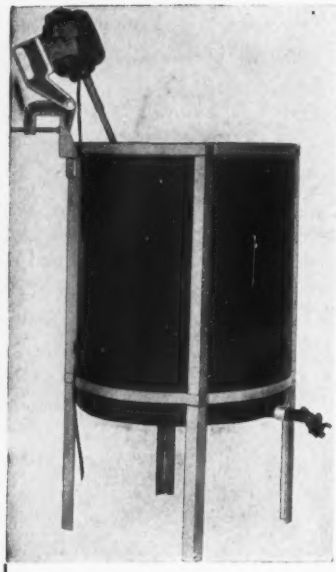
SUPERTOL—This in solid script describing disinfectant. Filed by Supertol Products Co., Leavenworth, Kans., Sept. 11, 1937. Claims use since Aug. 21, 1937.

to mix and filter

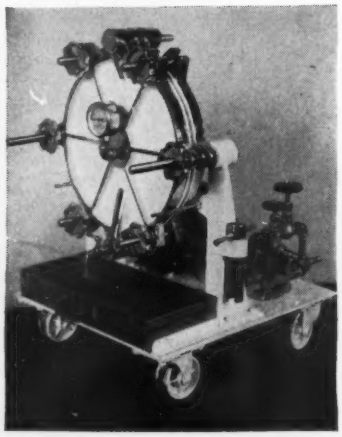
LIQUID SOAPS SHAMPOOS INSECTICIDES

and other

SANITARY CHEMICALS



This portable mixer and open glass lined tank can be used in many ways in every sanitary chemical plant. The combination is ideal for use in converting liquid soaps, shampoos, etc., and for mixing and incorporating perfume in liquid household insecticides, polishes, etc. Both units are available in sizes to suit almost any capacity requirement.



This bench model filter is designed for use in smaller plants and for taking care of odd jobs in larger factories. Filters liquid soaps, insecticides, etc.

ERTEL ENGINEERING CORPORATION

DEPT C, 120 EAST 16th ST. NEW YORK

BOOKS

Modern Soap Making, by Dr. E. G. Thomssen and C. R. Kemp. The first entirely original American book on soap manufacture in several years. Thoroughly covers every phase of soap manufacture and glycerin recovery. Written by practical soap men....a truly practical book. Chapter headings: Raw Materials; Machinery and Equipment; Soap Making Methods; Soap Products; Glycerin Recovery and Refining; Analytical Methods; Appendix with reference tables, etc. 450 pages. $7.50 per copy in U. S. Add 50 cents for foreign postage.

Henley's Twentieth Century Book of Recipes, Formulas and Processes. A handy reference book listing 10,000 miscellaneous formulas, including special sections for soaps, polishes, insecticides, etc. 800 pages, $4.00.

The Industrial Chemistry of Fats and Waxes, by Hilditch. A study of the fats and waxes in relation to their use in industry. 450 pages, $7.50.

Hydrogenation of Organic Substances, by Ellis. Latest revised edition of this well-known book, pre-eminent in the field of hydrogenation. 990 pages, $15.00.

Laundry Chemistry, by A. Harvey. A manual on the chemistry of laundry materials and methods. 120 pages, 5 x 7½, $1.75.

Modern Soap Perfumes, by Sedgwick. A practical handbook on the science of soap perfumery, $1.00.

Pyrethrum Flowers, by Gnadinger. A complete compilation of all known facts on pyrethrum; its history, sources, evaluation, chemistry and uses. The problems involved in the manufacture of pyrethrum products are given thorough and lucid exposition. 396 pages, $5.00.

"Soap." Bound volumes for years 1927-28, 1934, 1936 and 1937 available at $12.00 each.

Soap Blue Book. A Buyer's Guide, Catalog and Business and Technical Reference Book. 195 pages, $1.00.

Vegetable Fats and Oils, by George S. Jamieson. 444 pages. An American Chemical Society Monograph. Covering classification, occurrence, properties, analytical methods, etc., of vegetable oils, fatty acid and other derivatives; also production and refining methods, $6.50.

Chemistry of Laundry Materials, by D. N. Jackman. A useful book for the laundry operator, containing valuable information on the chemistry of laundry materials. Discusses alkalies, soaps, bleaches, starches, also the newer detergents, synthetic soaps, etc. 230 pages, $2.50.

Owing to the large numbers of books supplied it is impossible to open accounts on individual book orders or to supply books on approval. Please send check with order.

MAC NAIR-DORLAND CO.

254 West 31st Street, NEW YORK CITY

G—This in solid letter surrounded by floral decoration, describing glass cleaner. Filed by B. F. Goodrich Co., Akron, O., Aug. 6, 1937. Claims use since May, 1930.

MAID'S-AID—This in solid letters describing toilet bowl cleaner. Filed by Home Helpers Co., Buffalo, N. Y., Sept. 20, 1937. Claims use since Sept. 7, 1937.

Red and black drawing in the shape of a shield describing dog shampoo. Filed by Zenith Products Co., Wellsville, O., Dec. 9, 1937. Claims use since November, 1937.

FLY-HAWK—This in solid letters with drawing of hawk carrying insect in talons, describing insecticide. Filed by An-Fo Mfg. Co., Oakland, Calif., Dec. 20, 1937. Claims use since Dec. 31, 1934.

SEPTOLINE—This in outline letters describing germicide. Filed by Katz Drug Co., Kansas City, Dec. 22, 1937. Claims use since June 1, 1904.

SILVENA—This in outline letters with drawing of hand using polishing cloth. Filed by John Ritzenthaler, New York, Nov. 17, 1937. Claims use since April, 1934.

CORINTHIA—This in solid letters describing soap. Filed by Marx & Kushner, New York, Dec. 7, 1937. Claims use since Aug. 25, 1937.

Trade Marks Granted

353,626. Insecticides. California Spray-Chemical Corp., Richmond, Calif. Filed Aug. 23, 1937. Serial No. 396,665. Published Oct. 26, 1937. Class 6.

353,627. Insecticides. California Spray-Chemical Corp., Richmond, Calif. Filed Aug. 23, 1937. Serial No. 396,666. Published Oct. 26, 1937. Class 6.

353,628. Insecticides. California Spray-Chemical Corp., Richmond, Calif. Filed Aug. 23, 1937. Serial No. 396,668. Published Oct. 26, 1937. Class 6.

353,630. Insecticides. California Spray-Chemical Corp., Richmond, Calif. Filed Aug. 23, 1937. Serial No. 396,670. Published Oct. 26, 1937. Class 6.

353,631. Insecticides. California Spray-Chemical Corp., Richmond, Calif. Filed Aug. 23, 1937. Serial No. 396,672. Published Oct. 26, 1937. Class 6.

353,636. Shampoo. Nourishine Sales Co., Los Angeles, Calif. Filed Aug. 27, 1937. Serial No. 396,829. Published Nov. 2, 1937. Class 6.

353,909. Furniture Polish. Old Dutch Process Mfg. Co., Brooklyn. Filed July 18, 1936. Serial No. 381,168. Published Nov. 16, 1937 Class 16.

353,937. Water Softeners. Raincloud Water Softener, Inc., Green Bay, Wis. Filed June 26, 1937. Serial No. 394,551. Published Nov. 16, 1937. Class 13.

354,184. Waxing Pads. Pad-Y-Wax Co., New York. Filed March 30, 1935. Serial No. 363,229. Published Nov. 9, 1937. Class 4.

354,193. Soap and Disinfectant. National Retailer-Owned Grocers, Inc., Chicago. Filed Dec. 11, 1936. Serial No. 386,654. Published Oct. 26, 1937. Class 4.

354,194. Cleaning Powder. Pet Products Co., New York. Filed Dec. 17, 1936. Serial No. 386,845. Published Nov. 30, 1937. Class 4.

354,196. Cleaning Compounds. Turco Products, Inc., Los Angeles. Filed Jan. 2, 1937. Serial No. 387,408. Published June 1, 1937. Class 4.

354,197. Shoe Cleaner. Nu-Di Products Co., Cleveland. Filed Jan. 23, 1937. Serial No. 388,105. Published May 11, 1937. Class 4.

354,227. Shaving Soaps. Familex Products Co., Montreal, Quebec, Canada. Filed May 24, 1937. Serial No. 393,200. Published Nov. 23, 1937. Class 4.

354,228. Cleaning Compound. Fry Bros. Co., Cincinnati. Filed May 26, 1937. Serial No. 393,272. Published Oct. 26, 1937. Class 4.

354,230. Soap for Animals. Midway Chemical Co., Chicago. Filed June 1, 1937. Serial No. 393,471. Published Oct. 12, 1937. Class 4.

354,243. Wall Paper Cleaner. Joseph Smidt, Chicago. Filed June 28, 1937. Serial No. 394,641. Published Nov. 30, 1937. Class 4.

354,256. Automobile Cleaner. Paul Gibson, Richmond, Va. Filed July 24, 1937. Serial No. 395,616. Published Oct. 12, 1937. Class 4.

354,259. Cleaning Compound. H. Kirk White and Co., Oconomowoc, Wis. Filed July 31, 1937. Serial No. 395,887. Published Nov. 23, 1937. Class 4.

354,261. Detergent. Turco Products, Inc., Los Angeles. Filed Aug. 2, 1937. Serial No. 395,935. Published Nov. 9, 1937. Class 4.

354,265. Detergent. Popular Brands, Inc., Wyncote, Pa. Filed Aug. 4, 1937. Serial No. 396,007. Published Oct. 12, 1937. Class 4.

354,272. Soaps. Valrie McMahan, Washington, D. C. Filed Aug. 12, 1937. Serial No. 396,324. Published Oct. 12, 1937. Class 4.

354,273. Dog and Cat Soap. Nukote Laboratory, Santa Paula, Calif. Filed Aug. 13, 1937. Serial No. 396,357. Published Oct. 12, 1937. Class 4.

354,277. Toilet Soap. Sears, Roebuck and Co., Chicago. Filed Aug. 16, 1937. Serial No. 396,474. Published Nov. 2, 1937. Class 4.

354,279. Rug Cleaning Compounds. James B. McComb, New York. Filed Aug. 17, 1937. Serial No. 396,498. Published Oct. 19, 1937. Class 4.

354,286. Toilet Soap. Pinaud, Inc., New York. Filed Aug. 23, 1937. Serial No. 396,692. Published Oct. 12, 1937. Class 4.

354,287. Cleaning Solvents. Standard Oil Co. of California, San Francisco. Filed Aug. 23, 1937. Serial No. 396,699. Published Nov. 9, 1937. Class 4.

354,293. Chemical Detergent. Cowles Detergent Co., Cleveland. Filed Aug. 27, 1937. Serial No. 396,804. Published Oct. 19, 1937. Class 4.

354,307. Cleansing Composition. Garrod Products, Port Richmond, N. Y. Filed Sept. 3, 1937. Serial No. 397,103. Published Nov. 23, 1937. Class 4.

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Raw Material Markets

(As of February 26, 1938)

NEW YORK—The downward trend of prices of raw materials for the soap industry continued during the period just closed, caused mainly by the general recession in business activity. Tallow moved 5/8c lower, coconut oil dropped 1/2c, palm oil dropped off 1/2c, and olive declined 1/4c per pound on foots and 10c per gallon on denatured oil. On the other hand, cottonseed oil, corn oil and soya bean oil all advanced 1/2c to 7/10c per pound during the period. Essential oils moved lower in a number of instances, notably Messina lemon oil, Ceylon citronella, eucalyptus and African geranium.

OILS AND FATS

Coconut Oil

The market for crude coconut oil was characterized by an easier tone in local and Pacific Coast markets throughout the period, contrasting with a somewhat firmer tone in the preceding period. By the close, quotations for crude oil had dropped 1/2c. The reduction was attributed to the general sluggishness in business and recent shadings in price of copra. There was very little activity and actual business was limited to small lots for prompt shipment.

Cottonseed Oil

Quotations for crude cottonseed oil advanced 1/2c per pound during this period due to increased demands from buyers. At one time during the period offerings of Brazilian semi-refined oil were reported at 4.3c per pound. Along with cottonseed, crude corn oil moved upward 5/8c. The market for corn oil was consistently firm owing to the strength of other vegetable fats, and because of a reported curtailment in production.

Olive Oil

Quotations were reduced 1/4c per pound on olive oil foots, while denatured oil dropped 10c per gallon this period. According to a report from the Bureau of Agricultural Economics at Washington, the Portuguese government has adopted measures to maintain olive oil prices at remunerative levels. The measures provide for the production of olive oil by registered firms only and prohibit the importation of olive oil. In addition, the Portuguese government will advance credit to olive oil producers of that country to enable them to market their product.

Palm Oil

Prices were reduced 1/2c per pound on offerings for shipment. Spot quotations were reported to be well maintained, as supplies available for prompt delivery were said to be small.

Tallow

It was reported that large buyers in the soap industry were inclined to hold aloof in the tallow market during the period just closed. As a result offerings were freer and at the end of the period, quotations were down 5/8c. There were indications that the market appeared to be developing a steadier tone toward the close, but activity was still very light. The shading in tallow quotations was influential in the drop of 3/8c per pound in the price of grease.

PERFUMING MATERIALS

Geranium Oil

Quotations on African geranium were lowered to $3.65 to $4.50 per pound, while on the higher quality Bourbon oil quotations were down to $3.80. The weakness reflected change in replacement costs and the growth of local competition.

Citronella Oil

Ceylon oil in drums declined to 34 1/2c to 36 1/2c per pound, and 36 1/2c to 38 1/2c per pound in cans. The decline in prices was influenced by the recent lower prices in replacement material. Java oil lacked change.

Lemongrass Oil

The advance in price of lemongrass oil 2c per pound was indication of a tendency of firmness in this market, but business was dull and confined usually to jobbing transactions.

MISCELLANEOUS

Pyrethrum Concentrate

Pyrethrum concentrate advanced 60c per gallon in the period just ended. Quotations stood at $5.70 to $6.25 per gallon on 20 to 1 concentrate, while 30 to 1 concentrate was quoted at from $8.50 to $9.00. The reasons for the advance were increased importing costs, and the poor quality of flowers received in recent shipments, making it necessary to use more flowers.

Rosin

Rosin declined from 15c to 30c per 280 lbs. during the period. The decline was due largely to the general downward trend and absence of demand.

Waxes

Quotations on the various grades of beeswax moved downward in a dull market. Carnauba wax also moved lower due to a tendency of some sellers to shade prices. The Brazilian market appeared to be firm. Reports coming from the source stated that the crop was complete, with the added advice that in some instances shipments from the interior were unsatisfactory.

Hocking Appoints McGeehan

Anchor Hocking Glass Corp., Lancaster, O., has announced the appointment of Walter J. McGeehan as director of public relations and personnel. Mr. McGeehan was formerly secretary of the Chamber of Commerce in that city.

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WAGONS

Raw Material Prices

(As of February 26, 1938)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .05¾	$ .06¼
Acid, Boric, bbls., 99½%	ton	95.00	105.00
Cresylic, drums	gal.	.89	.93
Low boiling grade	gal.	.92	.96
Oxalic, bbls.	lb.	.11½	.12¼
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17½	.19
Alcohol, Ethyl, U. S. P., bbls.	gal.	4.14	4.19
Complete Denat., SD 1, drums, ex.	gal.	.33	.38
Alum. Potash lump	lb.	.036	.039
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1, works	ton	—	16.00
Bentonite 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	47.00	67.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
L. C. L.	lb.	.07	.08
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.12	.12½
Creosote Oil	gal.	.13½	.14½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.15½	.16
Dynamite, drums	lb.	.15½	.16
Saponification, drums	lb.	.09½	.10
Soap, lye, drums	lb.	.08½	.09
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs	lb.	1.15	1.30
Naphthalene, ref. flakes, bbls.	lb.	.07¼	.07½
Nitrobenzene (Wyrhane) drums	lb.	.07¼	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.02¾	.08⅛
Phenol (Carbolic Acid), drums	lb.	.13½	.14½
Pine Oil, bbls.	gal.	.59	.65
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03½	.03¾
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	5.00	6.25
Grade K to N	bbl.	6.40	6.60
Grade WG and X	bbl.	7.95	8.35
Wood FF Spot	bbl.	6.10	7.05
Rotten Stone, pwd. bbls.	lb.	.02½	.04½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.26	.35
Olive Castile, powder	lb.	.30	.35
Powdered White, Neutral	lb.	.19½	.21½
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U. S. P.	lb.	.08	.09½
Tallow Chips, 88%	lb.	.08¼	.08⅜
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.08	1.35
Car lots, in bulk	100 lb.	—	.90
Soda Caustic, cont., wks., solid	100 lb.	—	2.30
Flake	100 lb.	—	2.70
Liquid, tanks	100 lb.	—	1.95
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	15.30	15.70
Sodium Fluoride, bbls.	lb.	.07¼	.08¾
Sodium Hydrosulphite, bbls.	lb.	.16	.17
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22½	.29½
Triethanolamine	lb.	.20	.22
Trisodium Phosphate, bags, bbls.	lb.	.02	.03
Zinc Oxide, lead free	lb.	.06¼	.07¾
Zinc Stearate, bbls.	lb.	.20	.22

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06¾	—
Castor, No. 1, bbls.	lb.	.09¾	.10½
No. 3, bbls.	lb.	.09¼	.10
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03¾	—
Tanks, Pacific Coast, futures	lb.	.03½	—
Fatty Acids	lb.	.10¼	.10¾
Copra, bulk, coast	lb.	.0210	—
Corn, tanks, mills	lb.	.07⅜	.07½
Fatty Acids	lb.	.06	.06¼
Cottonseed, crude, tanks, mill	lb.	—	.06¾
PSY, futures	lb.	.07½	.07¾
Fatty Acids	lb.	.07⅝	.08⅝
Soap stock 60-62%	lb.	.02⅞	.03⅛
Soap stock 65%	lb.	.03⅞	.04⅛
Foots (50% basis)	lb.	.01⅜	.01½
Greases, choice white bbls., f.o.b.			
Chicago	lb.	.06	.06½
Yellow	lb.	.05	.05⅛
House	lb.	.04⅞	.05
Lard Oil,			
Extra, bbls.	lb.	—	.10½
Extra, No. 1, bbls.	lb.	—	.09¼
No. 2, bbls.	lb.	—	.08½
Linseed, raw, bbls.	lb.	.1020	.1030
Tanks, raw	lb.	.0990	.1050
Boiled, 5 bbl. lots	lb.	.1070	.1090
Oleo Oil, No. 1, bbls., N. Y.	lb.	—	.09½
No. 2, bbls., N. Y.	lb.	—	.09
Olive, denatured, bbls., N. Y.	gal.	1.00	1.05
Foots, bbls., N. Y.	lb.	.09	.09¼
Palm, shipment	lb.	.03⅜	.03½
Palm Kernel, shipment	lb.	.04⅛	Nom.
Red Oil, distilled, bbls.	lb.	.09⅝	.10⅝
Saponified, bbls.	lb.	.09⅝	.10⅝
Tanks	lb.	.08¾	.09¾
Sesame Oil, dms.	lb.	.10¼	.10½
Soya Bean, domestic tanks, crude	lb.	.0700	—
Stearic Acid.			
Double pressed	lb.	.11	.12
Triple pressed, bgs.	lb.	.13¾	.14¾
Stearine, oleo, bbls.	lb.	.07¼	.08
Tallow, special, f.o.b. plant	lb.	.05⅛	.05⅜
City, ex. loose, f.o.b. plant	lb.	—	.05⅞
Tallow oils, acidless, tanks, N. Y.	lb.	—	.08¾
Bbls., c/l N. Y.	lb.	—	.09¼
Teaseed Oil, crude	lb.	.08¼	.08½
Whale, refined	lb.	.0940	.0960

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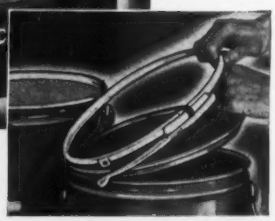
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(As of February 26, 1938)

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Almond, Bitter, U.S.P.	lb.	$2.25	$2.75
Bitter, F. F. P. A.	lb.	2.00	2.50
Sweet, cans	lb.	.68	.70
Anise, cans, U.S.P.	lb.	1.05	1.10
Bay tins		1.35	1.50
Bergamot, coppers	lb.	4.00	4.10
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.65	.70
Crude, tins	lb.	.14	.17
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.45	.50
Cajeput, native, tins	lb.	.66	.72
Calamus, tins	lb.	3.75	7.50
Camphor, Sassy, drums	lb.	.17	.18
White, drums	lb.	.17	.18
Cananga, native, tins	lb.	1.50	1.65
Rectified, tins	lb.	2.15	2.75
Caraway Seed	lb.	1.95	2.05
Cassia, Redistilled, U.S.P.	lb.	1.05	1.10
Cedar Leaf, tins	lb.	.75	.80
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.41	.43
Citronella, Ceylon, drums	lb.	.34½	.36½
Clove, U.S.P., tins	lb.	.97	1.02
Eucalyptus, Austl., U.S.P., cans	lb.	.42	.43
Fennel, U. S. P., tins	lb.	1.20	1.30
Geranium, African, cans	lb.	3.65	4.50
Bourbon, tins	lb.	3.65	3.80
Turkish	lb.	2.05	2.75
Hemlock, tins	lb.	1.05	1.10
Lavender, U.S.P., tins	lb.	4.75	4.90
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	3.45	4.00
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.40	.45
Linaloe, Mex., cases	lb.	1.30	1.40
Nutmeg, U. S. P., tins	lb.	1.25	1.30
Orange, Sweet, W. Ind., tins	lb.	1.95	2.00
Italian cop	lb.	2.25	3.00
Distilled	lb.	—	.90
Cal.	lb.	1.75	—
Origanum, cans, tech	lb.	.90	1.60
Palmarosa	lb.	2.05	2.75
Patchouli	lb.	4.50	8.00
Pennyroyal, dom.	lb.	1.40	1.45
Imported	lb.	1.40	1.50
Peppermint, nat., cans	lb.	2.10	2.35
Redis., U.S.P., cans	lb.	2.30	2.55
Petitgrain, S. A., tins	lb.	1.05	1.10
Pine Needle, Siberian	lb.	1.02	1.05
Rose, Natural	oz.	5.25	22.50
Artificial	oz.	2.00	3.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	.70
Sandalwood, E. Ind., U.S.P.	lb.	5.25	5.50
Sassafras, U. S. P.	lb.	.90	1.05
Artificial, drums	lb.	.35	.36
Spearmint, U.S.P.	lb.	1.60	1.70
Thyme, red, U.S.P.	lb.	.69	1.50
White, U.S.P.	lb.	.78	1.70
Vetivert, Bourbon	lb.	4.35	16.50
Ylang Ylang, Bourbon	lb.	3.50	6.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.05	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.30	1.35
Benzaldehyde, tech.	lb.	.60	.70
U. S. P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.60	3.95
Citronellal	lb.	.75	.80
Citronellol	lb.	1.75	1.80
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.00	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U. S. P.	lb.	.58	.60
Eugenol, U.S.P.	lb.	2.10	2.55
Geraniol, Domestic	lb.	.67	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	1.80	2.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	1.30	4.05
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	6.30
Linalyl Acetate	lb.	1.70	6.30
Menthol	lb.	3.10	3.20
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	3.90	4.35
Ketone	lb.	4.05	4.50
Xylene	lb.	1.15	1.40
Phenylactaldehyde	lb.	2.25	3.50
Phenylacetic Acid, 1 lb. bot.	lb.	1.85	3.25
Phenylethyl Alcohol, 1 lb. bot.	lb.	2.70	4.25
Rhodinol	lb.	5.75	15.00
Safrol	lb.	.50	.54
Terpineol, C. P., 1,000 lb. drs.	lb.	.23	.25
Cans	lb.	.25	.27
Terpinyl Acetate, 25 lb. cans	lb.	.77	1.00
Thymol, U.S.P.	lb.	1.50	1.55
Vanillin, U.S.P.	lb.	3.10	3.20
Yara Yara	lb.	1.25	1.50

Insecticide Materials

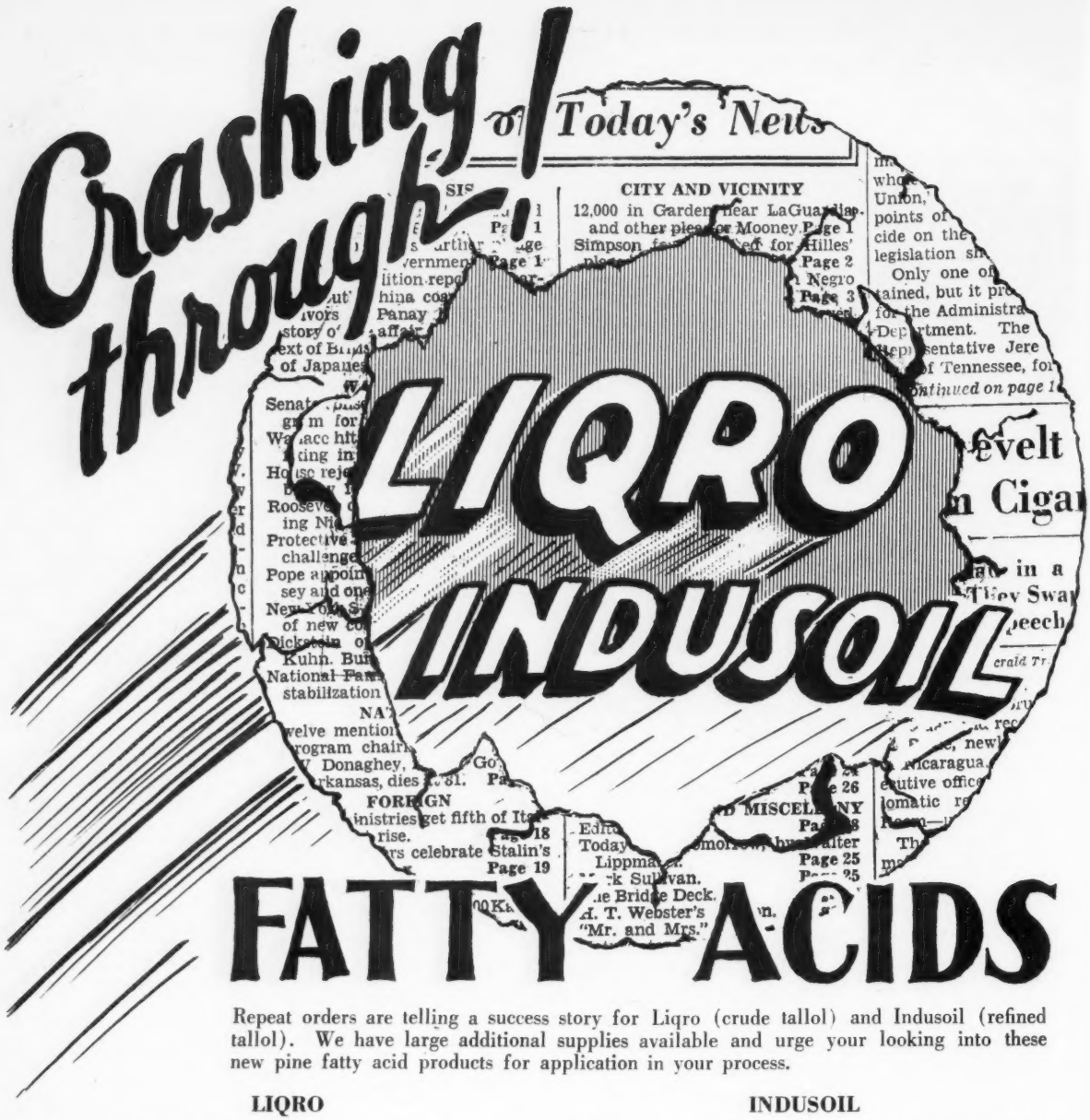
Insect Powder, bbls.	lb.	.23	.25
Concentrated Extract			
5 to 1	gal.	1.50	1.60
20 to 1	gal.	5.70	6.25
30 to 1	gal.	8.50	9.00
Derris, powder—4%	lb.	.33	.38
Derris, powder—5%	lb.	.39	.44
Cube, powder—4%	lb.	.23½	.28½
Cube, powder—5%	lb.	.28	.33

Gums

Arabic, Amb. Sts.	lb.	.10½	.11
White, powdered	lb.	.13½	.14
Karaya, powdered No. 1	lb.	.14½	.28
Tragacanth, Aleppo, No. 1	lb.	2.75	3.00
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.35	.39
African, bgs.	lb.	.24	.25½
Refined, yel.	lb.	.32	.35
Candelilla, bgs.	lb.	.13½	.14
Carnauba, No. 1	lb.	.39½	.42
No. 2, N. C.	lb.	.38½	.40
No. 3, chalky	lb.	.33	.35
Ceresin, yellow	lb.	.08½	.11½
Paraffin ref. 125-130	lb.	.0445	.05



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For asphalt emulsions, Liqro is proving to be an excellent emulsification product.

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Tank car	$35.00 per ton
Drum car	45.00 per ton

INDUSOIL

Indusoil is finding great use in the manufacture of textile soaps, where it has been replacing commercial grades of oleic acid (red oil) for the past few years. Indusoil is used in the manufacture of greases, lubricants, metal polishes and a variety of cutting oil emulsions, including sulphurized.

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Drum cars	5½c per lb.
LCL drum lots	6c per lb.

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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Medicated Soaps

MEDICATED soaps require special consideration if they are to have any real medicinal value. Not all kinds of fats are suitable and the number of medicaments that can be added to advantage is limited. Pure beef tallow is a good base. Fats yielding a large amount of linoleic acid should be excluded such as bone fat, garbage fat, etc. In order to produce a mild soap, neutralization of excess alkali with olive oil has been recommended. Some soapmakers object to this procedure on the ground that if the olive oil later turns rancid, it will be detrimental instead of helpful. Superfatting with lanolin is preferable, since lanolin has a soothing effect on the skin and mixes readily with water.

Most medical works refer only to liquid and paste soaps, but medicated solid soaps can be made just as well. Precautions in the latter case are to keep the amount of free alkali low, limit the salt content to a maximum of 0.2 per cent, and also keep the water content down. Before crutching, the water content should be 10-11 per cent. If the soap should be dryer than this and the added material is of a hygroscopic nature, the latter is best treated with an equal amount of water and allowed to stand for a few hours before addition to the soap. It is then mixed into the soap and the whole allowed to stand covered overnight. The following is a general formula:

	Parts
Caustic soda	120
Lard	50
Olive oil	40
Alcohol	12
Sodium chloride	25
Soda ash	3
Water	280

The lye is heated on a water bath and the melted lard and olive oil mixed into it and heated with stirring for a half hour. The alcohol is added and then 200 parts of water in small portions with continued warming, until a homogeneous mass is obtained. A sample portion of this should give a completely clear solution in hot distilled water. If this is the case, a filtered solution of the salt and soda in 80 parts of water is added and the heating continued until the soap is separated out. The cooled soap, separated from the salt liquor, is washed several times with water, pressed, cut into cakes and dried in a warm place.

Medicinal soap so prepared is tested by dissolving 1 gram in 10 cc. of alcohol. It should not turn red on addition of phenolphthalein or form a precipitate on addition of hydrogen sulfide. The soap is generally powdered before use. Various combinations of fats can be used in place of those given for *sapo medicatus*, based on the experience of the soapboiler.

Suitable additions for medicinal soap are as follows:

Thymol soap
1.5 kg. thymol
48.5 kg. soap base

Tannin soap
2.5 kg. tannin
47.5 kg. soap base

Camphor soap
2.5 kg. camphor
47.5 kg. soap base

Naphthol soap
2.5 kg. *B*-naphthol
47.5 kg. soap base

Formaldehyde soap
soap base and 1% Formalin

Iodide soap
soap base and 1% potassium iodide

Menthol soap
1 kg. menthol
49 kg. soap base

Naphthalene soap
4 kg. naphthalene
46 kg. soap base

One of the oldest medicaments is sulfur. The action of free sulfur is weakly reducing and antiparasitic, so that it finds use in such skin ailments as acne, seborrhea, etc. Although amorphous and crystalline sulfur are used, colloidal sulfur is more effective on account of its greater surface area.

Sulfur soaps
5 kg. colloidal sulfur
45 kg. soap base

———— • ————

2.5 kg. *B*-naphthol
5 kg. ichthyol
42.5 kg. soap base

———— • ————

3 kg. sulfur
1 kg. potassium iodide
46 kg. soap base

Tar soaps are doubtless among the more popular medicated soaps. Tar soap may be a hard white soap, for which anthrasol is mostly used. Anthrasol is a light yellow oil obtained from pitch or coal tar. Tar

soap may be combined with sulfur soap.

Tar soap
100 kg. soap base
5-7 kg. anthrasol
Tar-sulfur soap
5 kg. anthrasol
5 kg. sulfur
20 kg. fine sand
70 kg. soap base

A soap paste used in making soap plasters and in other such products may be prepared from the following:

30 kg. soybean oil or linseed oil
40 kg. caustic potash, 17°Be.
3 kg. alcohol

Sublimate of mercury is used as a germicidal agent but in solid soap it quickly decomposes, and even more quickly in liquid soap, forming metallic mercury and mercury soap. In order to overcome this difficulty, complex mercury compounds are used in soap, but they eventually decompose and the same thing happens. A few mercury compounds for this purpose are protected by patent, among them the sodium salt of oxymercuric-o-toluic acid. Another heavy metal compound sometimes used is bismuth subnitrate, in which case 2.5 parts may be combined with 47.5 parts of soap base. *Deutsche Parfümer Ztg.* **23,** 459-60, 479 (1937).

◆

Gelatin in Soaps

Gelatin and glue have been used as soap fillers for some time. There is no doubt that apart from any question of mere filling, either gelatin or glue increases the stability of a soap and lowers hygroscopicity and loss during manufacture. Another important practical point is that the greater hardness of the gelatin-filled base reduces cooling time in the moulds and greatly facilitates stamping. In the manufacture of toilet soaps, the addition of a small quantity of gelatin appears to be fully justified, i.e., to the extent of 0.5 per cent. In the production of liquid soap the presence of glyco-gelatin, made by mixing 10 pounds of glycerine with ½ pound of gelatin dissolved in 10 pounds of water, improves the stability of the soap. From ½ to 1 per cent is used. It renders the soap very soothing and emollient. Gelatin is apt to be precipitated if salicylic acid or other preservatives are present. Gelatin can also be used to increase the smoothness of shaving soaps and latherless creams. Paul I. Smith. *Manufacturing Perfumer* **3,** 13 (1938).

◆

Oil from Soap Stock

Soap that settles out when seed oils are neutralized with soda is deoiled by passing the undiluted soap through a continuously operated high-speed centrifuge. Suitably, one or more jets are provided on a fixed part of the centrifuge to spurt water over the bowl at the height of the discharge shoulders for the deoiled soap stock, whereby the soap is prevented from sticking to the receiving vessel. Aktiebolaget Separator. British Patent No. 469,204.

◆

Fat Refining

A one-stage fat rendering and refining procedure consists of heating and continuously agitating a charge of fat-bearing materials in one portion of a closed chamber and draining off the free fat to another part of the chamber. A finely divided solid refining agent is immediately mixed with the drained fats. The fats are then separated from the refining agent. The refined fat, crackling and refining agent are removed from the chamber separately from one another. The West Virginia Pulp & Paper Co. Canadian Patent No. 370,570.

◆

Chemistry of Lamepons

Lamepon is stated to be obtained by the condensation of fatty acid chlorides with protein decomposition products from leather waste, yielding some such material as the following:

$C_{17}H_{33}CONHR_1(CONHR_2)_xCOONa$

This would indicate both polar structure and colloidal properties. The large number of -CONH- groups is apparently what enables this assistant to disperse lime soaps in spite of its having a free carboxyl group corresponding to that in soap. Detergent, wetting and emulsifying power give this product a wider utility than soap. It may be observed that Lamepon has an aliphatic chain in addition to the protein, the two giving it the surface-active properties of soap, and also protective properties. Lamepon has been recommended for about all of the possible uses of soaps and wetting agents. F. G. Brown. *Textile Colorist* **60,** 13 (1938).

◆

Fatty Acid Production

Fatty acids suitable for soap making are obtained by treating an oil or fat with hydrogen in the presence of a catalyst, preferably under a high pressure. The amount of water necessary for the splitting is introduced afterward into the same apparatus. This order may be reversed and the water introduced first, the hydrogen and catalyst afterward. Hans Kaufmann. French Patent No. 811,797.

◆

Preserving Clarity of Oils

Olive oil containing stearin is mixed with a small amount of a polymerized and oxidized glyceride, such as oleodistearin to prevent deposition of the stearin at low temperatures. Crosse & Blackwell Ltd., Wm. Clayton, S. Back, J. F. Morse and R. I. Johnson. British Patent No. 469,113.

◆

Fat Rendering

Animal fats are rendered with the addition of 0.05 to 1 per cent by weight of activated carbon. The charge is treated thus in a closed vessel at a suitable rendering temperature for a period of more than 30 minutes. West Virginia Pulp & Paper Co. Canadian Patent No. 370,569.

◆

Corrosives in Laundry Work

Many pharmaceuticals, home bleaching agents and beauty preparations were tested and found to cause holes during laundering of fabrics on which they had been spilled previous to the laundering operation. H. R. Rudloff. *Laundryman* **3,** No. 11, 12-13 (1937); through Chem. Abs.

Modified Coconut Shampoo

COCONUT oil is often combined with other oils in the preparation of high lathering shampoo soaps, e.g., a liquid shampoo may be made from 9 parts of coconut oil and 7 parts of refined soybean oil. The coconut oil is slowly melted, avoiding overheating, the soybean oil added and the whole warmed to about 75° C. Stir in slowly 7.5 parts caustic potash (50° Be.) which has been diluted with 10 parts of distilled water. After stirring until reaction appears to be complete, cover the kettle and let stand for two hours. Test to see if saponification is complete and for excess alkalinity. A practical method of testing is to dissolve about 2 grams of soap in 6 grams of distilled water, with warming. Turbidity shows the presence of unsaponified fat, so that possibly 200 grams of caustic potash should be added.

To test for free alkali, add 2 drops of a 1 per cent phenolphthalein to the sample solution. If a decided red color results, stir in 0.3 to 1 part of castor oil fatty acids. If the soap is already too thick, diluted soap may also be added, after which it is necessary to boil at least a half hour. Eventually 75 parts of distilled water are stirred in. The soap dissolves overnight.

The following alternative procedure may be used as possibly being simpler. The fats are warmed together as above and 7.7 parts of 50° Be. caustic potash solution diluted with 10 parts of distilled water, added. The vessel is left covered for two hours and 75 parts of hot water added. After complete solution the excess of alkali is neutralized with castor oil fatty acids. First 300 grams of the fatty acids are stirred into the soap, the mixture is brought to boiling and after a quarter hour, a few drops of soap are tested with phenolphthalein. If the test shows only a pale pink or lack of a pink color, 0.3 kg. of potash carbonate dissolved in 3 kg. of distilled water is added. However, if the soap sample should still show a decided red color, 300 kg. more of castor oil fatty acids are added, boiled, and again tested. When the soap is no longer too alkaline, the potash solution is added. If still too alkaline, more fatty acids are added and correction continued as above. The potash is only added after the soap shows the desired reaction.

The soap is next cooled and perfumed. For the perfume, 0.5-1.5 kg. of pine-needle oil is stirred with a mixture of 0.2-0.6 kg. of castor oil fatty acids, 0.1-0.3 kg. of triethanolamine and 0.3-0.5 kg. of alcohol. This mixture is thoroughly stirred into the soap. If desired, the pine-needle oil may be mixed with other perfume materials such as bornyl acetate and lavender oil but these tend to cover partially the odor of pine.

The perfumed soap is allowed to stand in a cool room preferably for 14 days or longer to allow impurities and insoluble soap to settle. It should stand for a minimum of 8 days. It is then filtered, preferably in a cool room. Addition of 5 per cent of glycerine and 5 per cent of isopropyl alcohol renders the liquid soap somewhat more resistant to the effects of later chilling. The finished soap may be colored with fluorescein.

In place of soybean oil, olive foots, olive oil, peanut oil, or sunflower oil may be used without any other changes in the fat charge. Coconut oil may be replaced by its fatty acids, when slightly more caustic potash would be required. Bert. Pöll. *Riechstoff Industrie und Kosmetik* **12,** 242 (1937).

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Rancidity Color Tests

Simple color tests for rancidity are as follows: As a reagent, dissolve 0.1 gram of 2.7-diaminofluorene in 5 cc. of glacial acetic acid and add 5 mg. of hemin as catalyst. Place a drop of this solution on filter paper and add a little of the fat or oil. If the latter has become rancid, the peroxide present will cause the formation of a deep blue quinoid product.

Rancid fats also respond to a test for epihydrinaldehyde. Place a little of the fat and an equal quantity of concentrated hydrochloric acid in a microcrucible. Cover the crucible with a disk of filter paper which has been moistened with a 0.1 per cent solution of phloroglucinol in alcohol and a few drops of 20 per cent hydrochloric acid. Heat gently and a distinct red color will be obtained if the fat is rancid.

A third test for rancidity is based on a test for hydroxy aliphatic acid. As reagent, dissolve 0.5 gram of symmetrical diphenylcarbazide in 100 cc. of acetylene tetrachloride. Place a drop of the reagent on filter paper and add a little of the solution of the fat; a red color shows the presence of a hydroxy aliphatic acid. O. Frehden. *Mikrochim. Acta* **2,** 214-7 (1937); through Chem. Abs.

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Microanalysis of Soaps

Microchemical analysis was applied successfully to the practical problem of determining the nature of colored specks and crystalline occlusions in soap bars. The more common methods of analysis failed to yield the information. The black and brown specks on the soap were so minute that they were collected and weighed in terms of micrograms. The brown specks consisted mostly of soap colored with iron. The black specks consisted of iron with lesser amounts of chromium, cobalt, lead and tin. The source of these contaminations in the soap bars could be traced by the analytical results and further disturbances during the manufacturing process eliminated. The crystalline occlusions were found to be mostly sodium sulfate with a small amount of tin soap. In making these determinations a microplatinum filter boat was developed which permitted seven successful quantitative determinations to be carried out on a single sample weighing 1.3 mg. Herbert K. Alber and Clement J. Rodden. *Ind. Eng. Chem.*, Anal. Ed. **10,** 47-50 (1938).

Products and Processes

New Soapless Detergents

Two new detergents of the soapless type have recently been introduced to the market by Colgate-Palmolive-Peet Company. One is called Halo, and is a shampoo described as a neutral salt of a sulfonated fatty ester, with the addition of a superfatting agent. A test campaign with this product was conducted in Cleveland before the national advertising was begun. The other product is called Vel, and is for washing dishes and clothing. *Perfumery and Essential Oil Record* **29,** 36 (1938).

Spray Process Soap

A method of processing soap from soap paste into a solidified powder which can be pressed into blocks, is to subject the soap in a jacketed autoclave to a pressure of 10-15 atmospheres, with heating to 180-200°C. The high pressure prevents scorching at this temperature. The soap is then at atomized in a tower. The high temperature and pressure difference when the soap issues from the nozzle disintegrates it into very fine particles. The process enables atomization of any normal soap and bringing it to the desired fatty acid content. Dry air is passed up through the tower. The spray towers for this process should have an average height of 25-40 feet and a base surface of 17-27 yards. Such a tower can turn out 1-4 tons of powder per day. Welter. German Patent No. 516,903.

Soapless Shampoos

Shampoo preparations consist of a mixture of a fatty acid ester of a hydroxysulfonic acid with a sulfuric acid ester of a fat or oil or of a fatty acid. The mixtures are used in aqueous solution. Glycerine, alcohol, saponin, camomile extract, etc., may be added. Examples are (1) the oleic ester of isothionic acid, Turkey red oil, glycerine and water, and (2) the oleic acid derivative of taurine, the sulfuric ester of hydroxystearic acid, glycerine, saponin, sugar and water. Chemische Fabrik Stockhausen & Cie. British Patent No. 470,494.

Soap Containers

Containers for soap made of paper or of wood pulp, are rendered resistant to alkalies by impregnation with a mixture containing paraffin and rubber latex, e.g., the impregnating agent may consist of 100 parts of paraffin and 8 parts of dry latex. The paraffin may be replaced by waxes, stearin and pitch. Willy Gebhardt. French Patent No. 811,984.

Casein in Soaps

The quality of toilet soaps, and also their emulsifying power, can be increased by the incorporation of casein in the soap. The product gives a creamy rich lather. For 100 kg. of soap, 5 kg. of a freshly prepared 20 per cent casein paste can be used. *Seifensieder-Ztg.* **64,** 961 (1937).

Textile Soap

Perhaps the stage at which most soap is used in textile processing is in the fulling of wool. For this operation fatty alcohol sulfates and similar materials cannot be used in place of soap. The fat charge used for this soap should consist mostly of tallow-like fats with the addition of a few per cent of coconut oil to increase foaming power. The method of manufacture is the same as for other settled curd soaps but the purity of all materials used is of the greatest importance. This applies especially to the salt, which is added only in concentrated solution. Purification can be carried out by dissolving the salt in boiling water to which has been added 2 per cent of trisodium phosphate, some soda ash and caustic soda. The water used for boiling the soap and as a source of steam should also be pure and free from hardness-forming salts.

If the spent lye from the first salting out process is very dirty, the salting out should be repeated. During graining, a clear golden aqueous solution should be obtained, and an approved turbidity point on addition of a 0.5 per cent solution of trisodium phosphate to the boiling soap. The fatty acid content can be reduced after settling. H. Liebe. *Seifensieder-Ztg.* **64,** 899 (1937).

Water Softener

Soap is mixed with a water-soluble compound of thiotetraphosphoric acid. The latter appears to react with the calcium and magnesium ions in hard water and prevent their combining with the fatty acid radical of the soap. Thiotetraphosphoric acids are compounds in which one or more of the oxygen atoms in tetraphosphoric acid, $H_6P_4O_{13}$, have been replaced with a sulfur atom. The two thio derivatives which are especially applicable are sodium monothiotetraphosphate, $Na_6P_4O_{12}S$, and sodium trithiotetraphosphate $Na_6P_4O_{10}S_3$.

Any proportions of soap and the water-softening compound may be used; 20 per cent of the weight of the soap is a suitable proportion. The action is effective when the compound and soap or other cleanser are added to the wash water at the same time. If the water is first treated with the thiotetraphosphate and the soap added afterward, large bubbles of lather are formed. If the soap and phosphorus compound are intimately mixed first and then added to the water, the suds are denser and of a finer texture. A dry, solid mixture of the phosphorus compound and soap powder is a particularly convenient form of the improved detergent. The phosphorus compounds may be applied with advantage in compounding all kinds of industrial and domestic soaps, including toilet soaps, shampoos and surgical soaps. Rumford Chemical Works. British Patent No. 476,455.

Shaving Cream

A shaving cream consists of 81.65 per cent of water, 6 of an emulsifier such as soap, 5 of glycerine, 2 of oleic acid, 4 of liquid petrolatum, 1 of wax, 0.15 of menthol, and 0.2 per cent of perfume. Georges P. A. Brossard. French Patent No. 813,857.

Soap Powder

A 20 per cent soap powder with good lathering properties may be made as follows: Take 21 kg. of neutral fat or 20 kg. of fatty acids for saponification. They may consist of equal parts of palm kernel oil or coconut oil, and tallow or lard, bone fat, palm oil, etc. About 11 kg. of 38° Be. caustic soda will be needed. Add 36 kg. of water, 5 kg. of high-alkali sodium silicate and 33 kg. of calcined soda. After cooling and drying about 100 kg. of the finished powder is obtained. *Seifensieder-Ztg.* **65,** 6, (1938).

Sulfonated Products

Sulfonated products having washing and lime-soap protective properties, are prepared by the sulfonation and condensation of completely saturated cyclic hydrocarbons with aliphatic hydroxy compounds or their corresponding olefins. The condensation is effected in the presence of dehydrating agents. Petroleum distillates or coal-distillation products rich in cycloparaffins may be used as starting materials, e.g., hexahydrobenzene is condensed and sulfonated with butyl alcohol, cetyl alcohol and oleic alcohol. Also cetyl alcohol is sulfonated and condensed with decahydronaphthalene. Alfred Ofner. British Patent No. 468,956.

Fish Oil Hydrocarbons

A petroleum-like product is prepared by washing fish oil with alkali, washing the precipitated oil with dilute sulfuric acid, hydrogenating it at 80 atmosphers with a nickel catalyst, and saponifying the crude hydrogenated oil. The product contains less than 1 per cent of aldehydes and ketones, about 1 per cent of alcohols such as cetyl alcohols, very small amounts of hydrocarbons lower than C_7, saturated liquid hydrocarbons from C_7 to C_{18} and solid hydrocarbons, chiefly a C_{22} compound, but some C_{36} and small amounts of C_{22}, C_{24} and C_{30}. Sei-ichi Ueno and Ryosei Koyama. *J. Soc. Chem. Ind., Japan* **40,** Suppl. binding 296-8 (1937).

Cleaning Agents

Substances with a high capillary activity are obtained by the action of oxygenated hydrocarbons containing at least 8 carbon atoms with substances containing at least one HSO_3 group. E.g., hydroxypropane-2-sulfonic acid is treated with potassium stearate. Friedrich Steinfels A.-G. French Patent No. 813,128.

Hydrogenation Catalyst

In the hydrogenation of sunflower oil and black cottonseed oil, the best results were obtained with 3-5 per cent of a copper-nickel catalyst (1:3) precipitated on kieselguhr (1:1). The catalyst is prepared from copper and nickel sulfates. It should contain a maximum of 0.3 per cent iron and only traces of zinc. By a preliminary bleaching of oils with 1 per cent of gas-producer carbon residue, edible fat mixtures of excellent whiteness are obtained. G. Klein, N. Kaminskii, M. Litvinov and N. Fedorovich. *Masloboino Zhirovoe Delo* **13,** No. 4, 31-4 (1937); through Chem. Abs.

Stabilizing Fats

Edible or other animal, fish or vegetable oils and fats are stabilized against the development of rancidity by dissolving or dispersing therein a sugar amine or a salt thereof, e.g., 0.001-2.0 per cent of glucamine, methylglucamine, laurylglucamine, etc. E. I. du Pont de Nemours & Co. British Patent No. 470,573.

Antioxidants in Distillation

Antioxidants such as hydroquinone, pyrogallol, furfural, *p*-aminophenol, etc., are added to fish oils before the latter are subjected to molecular distillation. Eastman Kodak Co. French Patent No. 812,734.

Cleaner for Hard Surfaces

A cleanser for glass, stonework, brickwork, and varnish or enamel coatings, consists of dilute hydrofluoric acid and one or more of the following agents that serve to retard the drying of the acid solution: Orthophosphoric acid, a cellulose derivative such as methylcellulose, capable of swelling in water, sugar, glycerine or other polyhydric alcohol, molasses. There may be added a wetting agent such as sulfite cellulose lye or a higher fatty alcohol, and a substance that reduces the action of the acid or window frames or other metal parts, e.g., crude anthracene, acid resins, diphenyl sulfoxide, quinoline compounds, albuminous compounds, and salts of metals. I. G. Farbenindustrie A.-G. British Patent No. 469,333.

Perborate-Bile Cleaner

A powdered preparation for cleaning and washing consists of a mixture of borax, sodium bicarbonate, soap, sodium perborate and ox bile. Heinrich Wolter. German Patent No. 650,951.

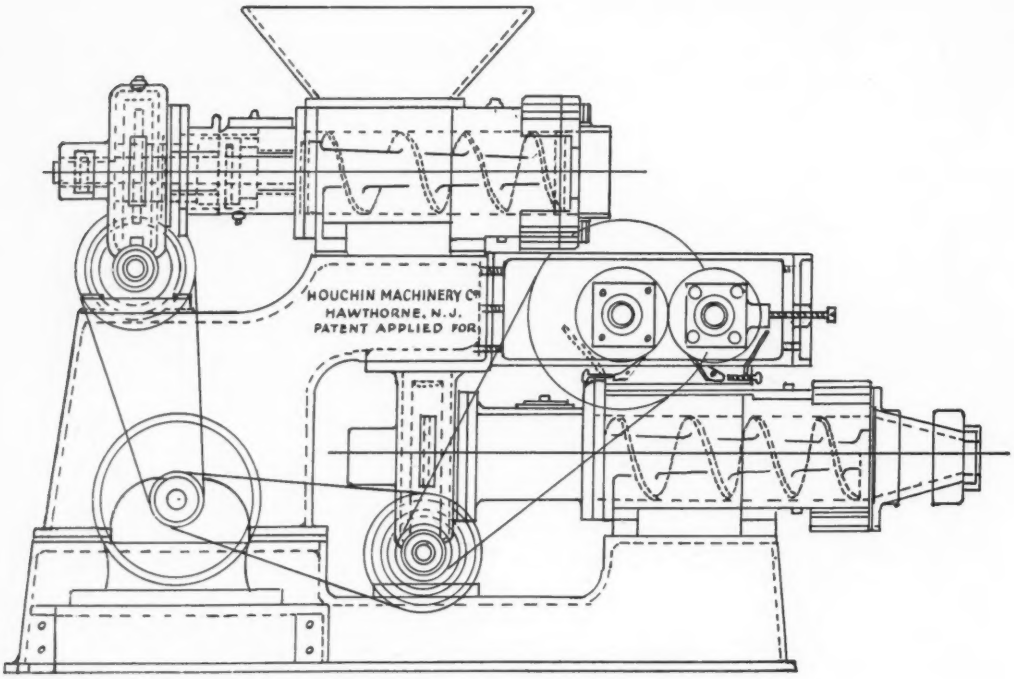
Sperm Blubber Oil

By distilling sperm blubber oil under 2 mm. of vacuum, 60 per cent is obtainable in the distillate. The main portion of the glycerides remains in the distillation residue. The esters of the distillate appeared to consist mainly of the cetyl and oleyl esters of oleic acid accompanied by fairly notable amounts of the esters of C_{16} acids, chiefly zoomaric. A small amount of cetyl palmitate was separated. M. Tsujimoto and H. Koyanagi. *J. Soc. Chem. Ind., Japan* **40,** Suppl. binding 315-7 (1937).

Soy Flour for Rancidity

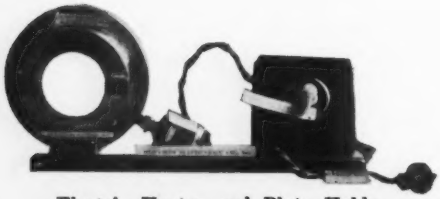
Fats such as lard, hydrogenated cottonseed oil, etc. are heated with solid soybean material in an amount sufficient to inhibit rancidity. A suitable amount is about 5 per cent of soybean flour. Sidney Musher. U. S. Patent No. 2,097,252.

HOUCHIN MACHINERY CO., INC. HAWTHORNE, N. J.

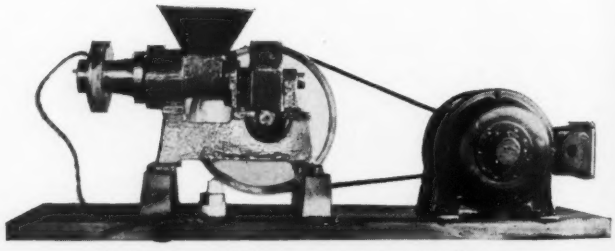


COMBINATION PLODDERS
With Double Head and Milling Attachment With Motor

Soap passing through the first time produces ribbons of soap. Second passing produces a fine finished, well compressed bar of Soap. For the second passing, remove Short Head on Second Plodder, bring Long Finishing Head in place. This Head is fitted with our Electric Heater and Plate Holder. A small stream of water passing through Plodder Cylinders and Rolls of Mill keeps the Soap cool, preventing the Soap from blistering. There is no dropping of Soap. The machine is very easily cleaned. It is excellent for short runs of Soap and saves Horse-Power.



Electric Heater and Plate Holder
By using this unit instead of steam, gas or lamp a uniform heat can be maintained. No more blistered soap. Made to fit all Plodders.



Laboratory Plodder, complete with Motor, Electric Heater, and Plate Holder.

A Study of Shaving

A SCIENTIFIC study of the factors involved in shaving shows that keratin, of which hair is chiefly composed, is insoluble in water but absorbs water readily, and is completely soluble in strong alkalies. The tensile strength and consequently the hardness of hair are lessened by water absorption. Hair acquires a film of sebaceous secretion which retards water absorption,—an important factor in shaving.

The primary purpose in preparing the face for shaving is to modify the initial hard condition of the hairshaft. The main causes of unsatisfactory shaving are dull blades, incompletely softened hairs and improper shaving angles. A preparation period is absolutely necessary for softening the hair. Soap solution is of value in shortening the time factor. Gray and white hair takes longer to soften than other hair. The temperature of the water is also an important factor. With water at 120° F., a minimum of 2½ to 3 minutes was found necessary for the proper softening of the beard. A longer time is required with cold water, and for white hair. The best soap devised cannot compensate for the use of cold water or a dull razor blade.

The softening action of latherless shaving creams when used alone, was found to be slower than soap. The practice of mixing petrolatum with shaving soap results only in a tendency to stiffen the lather. Stiff lather tends to protect the skin from abrasion by preventing the closest possible shave. A minimum amount of injury to the skin was found to take place with effective shaving angles of 25° or less, but angles of from 28° to 32° give most men a better combination of freedom from discomfort during shaving and ease of close shaving with minimum damage to the skin. Discomfort was practically absent at an angle of 20° to 25° and was conspicuous at an angle over 40°. Daily shaving removes in addition to the hair, a fair amount of epidermis. For this reason an antiseptic lotion is advisable after shaving. Both 50 per cent and 70 per cent alcohol were found very satisfactory for increasing after-shaving comfort.

As a result of the study, the following general procedure is recommended: Wash the face first with soap and hot water for at least a half minute. Rinse thoroughly. This removes casual dirt, perspiration and sebum. Apply a layer of shaving soap, rubbing well into the skin and using plenty of water. The two operations should take a minimum of 2½-3 minutes. If latherless cream is preferred, it should be applied on top of the second soaping and should be rubbed about enough to mix well with the lather. If a high-foaming soap is used, it should be whipped into a lather with a brush. The razor should be wet with hot water before use and both razor and face should be kept wet during the whole operation. Rinse thoroughly and apply a styptic if bleeding occurs, or in any case, an antiseptic solution. Lester Hollander and Elbridge J. Casselman. *J. Am. Med. Assoc.*, pp. 95-101 (1937).

Detergents in Dairy Work

Detergent action on dairy tanks and equipment involves a variety of reactions, including solution of part of the deposited film; hydration and peptization of the protein present; base exchange from the protein to give a more highly hydrated film; and mutual solution of the surface in a detergent, which tends to dislodge the film from its base. The efficiency of cleansing depends on the kind of detergent solution and the time of reaction. The effect of the detergents is modified to a minor degree by the harness of the water.

Greater wear of plated metallic surfaces takes place through wear and tear and abrasion than by the corrosive action of alkaline detergents. Some solution of tin occurs, but this can be minimized by the use of 0.5 to 1.0 per cent of sodium sulfite in the detergent mixture. The corrosion of aluminum by alkaline liquids is related to the physical state and purity of the metal. Crystalline or cast aluminum or sheeting below 94 per cent purity is rapidly attacked, but polished sheeting of greater purity is fairly resistant. The protective action of silicate and phosphate or combinations of these on aluminum is established. The pH value of an alkaline detergent solution will usually exceed 11. The bactericidal effect will depend on the temperature and time of exposure. In general detergent solutions will have a considerable lethal effect on bacteria. W. L. Davies. *Dairy Inds.* **2,** 438-9 (1937).

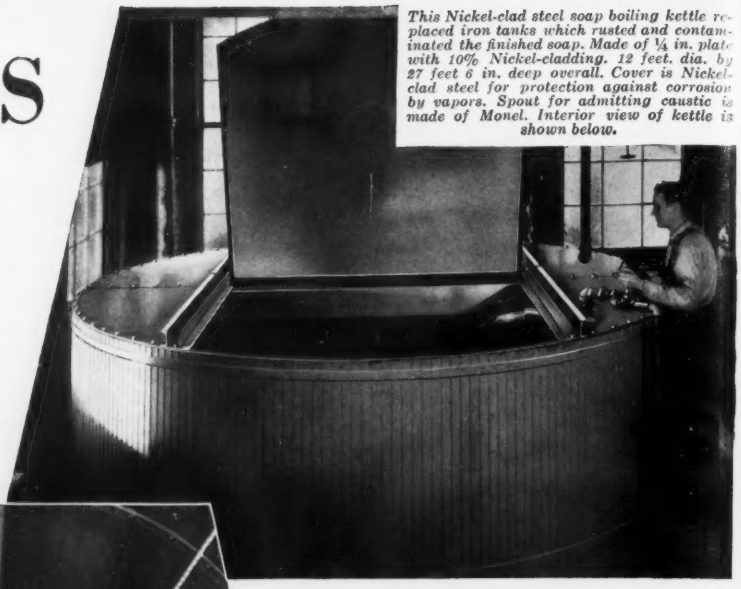
Winter Shaving Cream

It has been found that shaving cream containing excess stearic acid is sometimes more irritating than if it had contained excess alkali. This is more apt to be the case during the cold winter months when the skin is unusually dry, than at any other time of the year. The difficulty can be overcome by adding 1-2 per cent of boric acid to neutral shaving cream to give it the desired acidity. Boric acid is nonirritating to the skin and in this amount will not decrease lathering power. Also an addition of 0.2 per cent of menthol dissolved in twice this amount of alcohol, is soothing to sensitive skins. Very small amounts of lanolin and lecithin may also be added and will make the lather thicker if used in the proper proportions. *Seifensieder-Ztg.* **65,** 21 (1938).

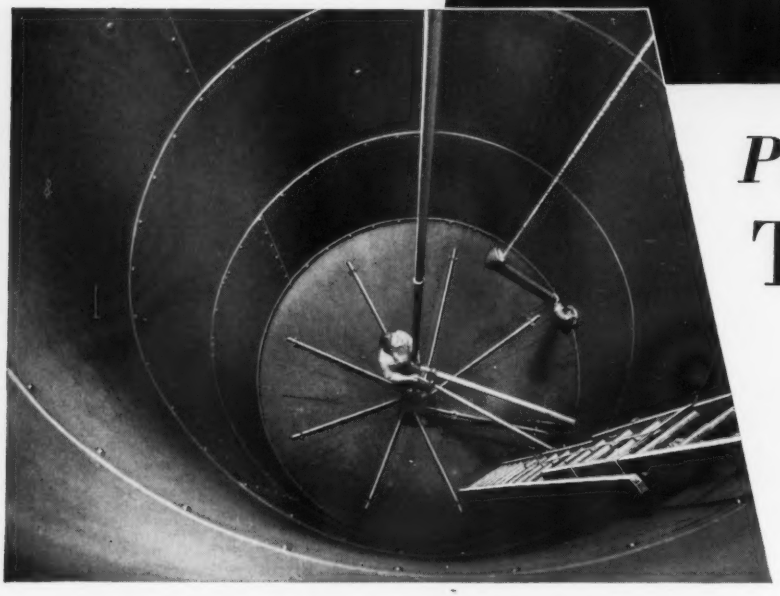
New Forms for Constants

It has been proposed that all of the constants for oils and fats be calculated so as to refer to 1 gram of substance. Such a system would aid in the determination of compound structure and would show the logical relations between various oils and the determination of mixtures of oils and fats. The ratio of the iodine unsaturation number to the acid number is then always an integer. A. Otten. *Uspekhi Khim.* **6,** 962-73 (1937); through Chem. Abs.

POUNDS *of* PURE NICKEL..



This Nickel-clad steel soap boiling kettle replaced iron tanks which rusted and contaminated the finished soap. Made of ¼ in. plate with 10% Nickel-cladding. 12 feet. dia. by 27 feet 6 in. deep overall. Cover is Nickel-clad steel for protection against corrosion by vapors. Spout for admitting caustic is made of Monel. Interior view of kettle is shown below.



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Because Nickel-clad steel combines the chemical characteristics of Pure Nickel with the strength of plate steel it's an economical construction material for large kettles and other soap plant equipment. Hot-rolled at a high temperature, the Nickel cladding and the steel plate become permanently bonded into one solid plate, which can be welded and, of course, fabricated by all standard methods.

Wherever rust and corrosion are liable to cause trouble, there Nickel and Monel safeguard soap ingredients and equipment. Write for further information on Nickel and Nickel-clad steel. Ask for "Nickel and Monel in the Manufacture of Soap", "Lukens Nickel-Clad Steel", and "Methods for the Fabrication of Nickel-Clad Steel Plate." Address

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Saponins as Soap Substitutes

Wild soaproot contains 32 per cent of saponin which is extracted, dried and powdered. The emulsifying and lathering powers of 0.05 per solution in water are equal to those of a 0.125 curd soap solution. The wetting power is lower than that of soap solution. As reported by Tyutyunnikov, the lathering power of saponins and soap in their mixtures is considerably decreased.

To test detergency, white cloth was impregnated with petroleum either containing a soil composed of soot, beef fat and machine oil. Strips of cloth soiled with this and dried were washed for 7.5 minutes with solutions of saponins and soaps of different concentrations, hard and distilled water, with and without addition of soda ash. The degree of whiteness resulting was determined in the Ostwald photometer. Results indicated that the detergent power of saponins is greater in distilled water than in hard water. It increases on addition of soda ash to a 0.025 per cent solution of saponins and decreases with a 0.05 per cent solution. The washing capacity of a 0.05 per cent solution of saponins is greater than that of a 0.075 per cent solution. Pure saponins are better detergents than commercial extracts.

A mixture of 25 per cent of a 33° Be. saponin extract, 54 per cent of kaolin and 10 per cent of calcined sodium carbonate was triturated in a mortar with 10 per cent of water, with neutralized petroleum sulfonic acids, with sodium silicate and with rosin oil,—and then formed by hand into bars for testing. All of the bars possessed equally satisfactory detergent properties for toilet use and laundering. The mixture with petroleum sulfonic acids excelled all others in the combined effect. The emulsifying power of all of the mixtures was inferior. The mixture with rosin oil had a good physical appearance, satisfactory lathering properties and an emulsifying power somewhat greater than that of the mixtures with water and sodium silicate.

Dry shampoos containing 0.025-0.1 per cent of saponins, based on the pure product, in 10° and 20° alcohol, were prepared from an extract, with and without the addition of 1 per cent ammonium hydroxide, 2 per cent ammonium carbonate and 2 per cent borax. The solution in 10° alcohol possessed some lathering properties, that in 20° alcohol none. The addition of ammonium hydroxide to the solution in 10° alcohol increased the lathering and emulsifying properties considerably. Ammonium carbonate improved the emulsifying power but not the lathering power. Borax increased the emulsifying property and decreased the lathering power to zero. A solution of 1-2 per cent saponins in 20° alcohol can be used as a substitute for liquid toilet soap and wet shampoo.

Tests in machine-washing of white and dyed cotton, silk, wool and viscose fabrics and skeins with a solution of soaproot extract containing 0.05 per cent of saponins, and with a 0.125 per cent solution of curd soap, showed that when compared to soaps, saponins cause insignificant bleeding on print and dyed goods. They preserve the luster of silk and rayon washed in hard water (there is no formation of calcium soap), and give no clumping and shrinking of woolen articles. Washing white goods with saponins and soap gave approximately equal results. A. F. Lomanovich and T. A. Blagova. Vsesoyuz. Nauch.-Issledovatel. Inst. Zhirov 1936, 14-33, 34-40, 41-9; through Chem. Abs.

Hydrolysis of Sulfonated Oils

The maximum hydrolyzing power of sulfonated petroleum oil with a molecular weight of 220 is at an acidity of 1 per cent in terms of sulfuric acid in the aqueous phase. That of sulfonated gas oil with a molecular weight of 344 is at 2 per cent acidity. The solubility of high-molecular sulfonic acids in the oil phase increases with the increase of the fatty acids in the oil, while that of the low-molecular weight sulfonic acids decreases. M. Irodov and R. Lazerson. *Masloboino Zhirovoe Delo* **13,** No. 4, 39-40 (1937); through Chem. Abs.

Sulfite Lye Emulsions

A sulfite lye emulsion of either petroleum or tar oil cannot be conveniently prepared on a commercial scale without the use of an efficient colloid mill or homogenizer. A primary emulsion is prepared by mixing 1 part of oil and 3 parts by volume of a 20 per cent sulfite lye solution, and passing the mixture through the mill. Mix the primary emulsion with further quantities of oil and lye in proportions to give 67 per cent of oil and 33 per cent of lye by volume in the final emulsion and feed the mixture under pressure through the mill. If the total volume of oil and lye is mixed in one operation before milling, formation of the undesired water-in-oil emulsion is almost certain to occur. The milling operation is best carried out at temperatures not lower than 17° C. Inverted sulfite lye emulsions can be changed from the water-in-oil to the oil-in-water phase by adding 1 part by volume of 20 per cent lye to 3 parts by volume of the inverted emulsion and passing the mixture through the mill one or more times. H. G. H. Kearns and H. Martin. Ann. Rept. Agr. Hort. Research Sta., Long Ashton, Bristol, 1936, pp. 118-23; through Chem. Abs.

Lignite Soap in Austria

A soap prepared from lignite and known as "Lave" has been developed in Austria, according to a leading London trade journal. It is said to have a slightly acid reaction, to be non-injurious to the skin, to be usable without water, to have the consistency of cosmetic cream, and to be unusually solvent. It is possible, however, the journal states, that this "soap" may be no more than a sulfonated wax from lignite.

Wax Recovery

Wetting agents such as Nekals and Igepons are used in hot aqueous solution for recovery of beeswax from low-grade residues. On agitation, the impurities are retained by the aqueous phase, while the purified wax collects on the surface of the liquid. Fritz Neuber. *Seifensieder-Ztg.* **64,** 652 (1937); through Chem. Abs.

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No. 2,104,070, Stabilization Fats and Oils, Patented January 4, 1938 by Hamilton Bradshaw, Wilmington, Del., assignor to E. I. duPont de Nemours & Company, Wilmington, Del. Animal and vegetable fats and oils normally tending to become rancid having incorporated therein, in an amount sufficient to inhibit rancidity development, a phenol having at least one alkoxy group in at least one of the positions ortho and para to a phenolic hydroxyl group and at least one carboxyl group directly bonded to a carbon of the aromatic ring, the phenol consisting of carbon, hydrogen and oxygen.

No. 2,104,084, Stabilization Fats and Oils, Patented January 4, 1938 by George H. Latham, Wilmington, Del., assignor to E. I. duPont de Nemours & Company, Wilmington, Del. Animal and vegetable fats and oils normally tending to become rancid having incorporated therein, in an amount sufficient to inhibit rancidity development, a phenol having at least one alkoxy group in at least one of the positions ortho and para to a phenolic hydroxyl group and at least one hydroxy aliphatic group in which at least one carbon atom is directly bonded to a carbon atom of the aromatic ring, the phenol consisting of carbon, hydrogen and oxygen.

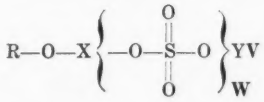
No. 2,104,242, Fatty Matter and Stabilizing Same, Patented January 4, 1938 by Albert S. Richardson, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio. The process of stabilizing against rancidity due to oxidation, fatty materials which are substantially dry and substantially free from organic matter subject to bacterial decomposition, which comprises incorporating therewith a small quantity of a compound selected from the group consisting of phosphorus acid and its acid reacting derivatives.

No. 2,104,757, Insecticide Spray, Patented January 11, 1938 by Walter C. O'Kane, Durham, N. H. As an insecticidal agent, a substantially non-aqueous combination of an oil selected from the class consisting of vegetable and animal oils, a contact insecticide selectively soluble in the oil, and an emulsifying agent soluble in the contact agent in proportions to give an unstable dispersion in water.

No. 2,105,727, Insecticides, Patented January 18, 1938 by Charles B. Gnadinger, Minneapolis, Minn. An insecticide containing a polyselenide of metal selected from the group consisting of alkali metals and alkaline earth metals.

No. 2,105,856, Insecticidal Oil, Patented January 18, 1938 by Lysle R. Coleman, McAllen, and Gerald L. Cowley, Alamo, Texas. A new insecticidal oil, non-toxic to vegetation, consisting of a distillate fraction from crude petroleum oil which is characterized by having a viscosity of from 65 to 200 seconds Saybolt at 100°F., a specific gravity between .9000 and .9600, distilling between 500°F. and 800°F., and yielding an unsulphonated residue of between 60 and 85 per cent.

Reissue No. 20,636, Wetting Agents, Patented January 25, 1938 by Benjamin R. Harris, Chicago, Ill., assignor to Colgate-Palmolive-Peet Company, Jersey City, N. J. A stable chemical substance represented by the general formula



wherein R is an acyl radical with at least four carbon atoms, X represents the residue of an aliphatic polyhydroxy substance of a class consisting of glycerol, polyglycerols, glycols, polyglycols, hydroxycarboxylic acids, sugars, sugar alcohols, and acid derivatives of sugars which links together the acyl radical with the sulphate group, Y is a cation, and w and v are small whole numbers, at least one.

New pH Meter for Soaps

Wilkens-Anderson Co. is marketing a new pH meter which was designed by Dr. Donald H. Cameron of Racine, Wis. Many exclusive features are claimed for the new unit and it is also said that the instrument can be depended upon for sustained accuracy, not possible with portable electrometers. In addition to the standard features of the device, a special valve is available which makes possible remote control tests of material being processed in kettles. Complete information may be obtained by writing Wilkens-Anderson, 111 N. Canal St., Chicago, and asking for Bulletin No. 309.

Custom House Guide

The New York Custom House has just issued the 1938 edition of its annual Custom House Guide, which contains the new U. S. Custom Regulations of 1937. These supercede the old 1931 Regulations. The alphabetical index of 30,000 commodities has been entirely revised. Opposite each commodity are the new rates of duty provided for in the 16 reciprocal trade agreements recently concluded by the United States with foreign nations, as well as the many revisions enacted by Congress. Other information includes port sections covering the facilities of all principal ports; information concerning foreign forwarding agents, weights, measures, coin values, etc. The American Import & Export Bulletin, which is issued monthly, is offered as a supplementary service along with the Guide, offering all the latest revisions, rules, decisions made during the year. Copies may be obtained by addressing Custom House Guide, Box 7, Station P, Custom House, New York.

Snow Brokerage Co. Moves

The New York office of Snow Brokerage Co., fat and oil brokers, has just been moved to a new location at 21 West Street. The new manager of the concern, who has recently taken the place of Miss Weber, is Alan B. Rice.

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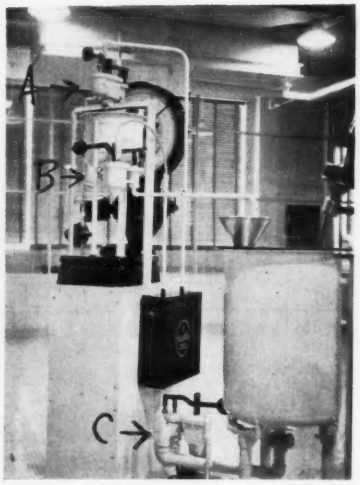
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New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

450—Automatic Control System

Davis Regulator Co., Chicago, in collaboration with Toledo Scale Co., Toledo, has developed an auto-



matic electrical control system which can be applied to various plant manufacturing operations. The Davis concern supplies the solenoid valves, while weighing equipment equipped with photoelectric eye attachments is manufactured by the scale company. A typical hook-up is illustrated. The valves A, B and C operate automatically to control the flow of liquid thru the system. Advantages claimed for this type of set-up are that it eliminates chance of human error and duplicates the manufacturing process exactly each time.

451—"Inco" Magazine

International Nickel Co., New York, has just published the winter issue of *Inco*, quarterly magazine devoted to the uses of nickel and nickel alloys. The lead article is about soap—"Where There's Life, There's Soap"—and the need for non-corroding metal equipment in order to maintain quality standards in its manufacture. The cover design is illustrated with some of the first soap advertisements ever published. Copies available on request.

Publications

452—Fuld Bros.' Price List

Fuld Bros., Baltimore, have just issued a complete new price list for their line of sanitary chemicals. Copies available on request.

453—Package Machinery Folder

Package Machinery Co., Springfield, Mass., has recently distributed a broadside with illustrations of the different uses and types of wrapping machinery it manufactures. The broadside also contains a partial listing of well-known firms using Package Machinery equipment. Copies available on request.

454—Agfa Aromatics Folder

Agfa Aromatics Division, General Drug Co., New York, is mailing post card size folders to the trade describing the synthesized odors it has developed in its laboratories. Detachable cards are provided for the convenience of those who would like samples.

455—Rohm & Haas Study

Rohm & Haas Co., Philadelphia, has just published a study of wetting agents, discussing the nature of tests and experiments which were conducted to evolve its new synthesized agent, "Triton W-30." The study contains a number of charts and tables obtained from controlled laboratory experiments outlining the application of "Triton W-30" in a variety of applications. Copies available on request.

456—Issue Schimmel Report

Schimmel & Co., New York, have just published the 1937 edition of the annual Schimmel Scientific Report, aromatic chemicals and essential oils reference book. The report includes, among other items, an original paper on the two spatially isomeric isofenchals by Harry Schmidt and Karl Todenhofer of the Schimmel laboratories; a portion dealing with Pharmacopoeias in which the new edition of the Portuguese Pharmacopeia is reviewed; a section on chemical preparations and drugs; and a report on the market outlook of various essential oils. Further particulars about the book can be obtained by writing to Schimmel & Co., 601 West 26th St., N. Y.

457—Rochester Catalog

Rochester Germicide Co., Rochester, N. Y., has issued a golden anniversary catalog in commemoration of the 50th anniversary of the company's founding this year, celebrated recently at Rochester. The catalog carries a complete list of the firm's line of sanitary products. Copies available on request.

458—Globe Catalog

Globe Sanitary Supply Co., Los Angeles, is distributing a new catalog and reference manual describing the firm's line of cleaning materials and maintenance supplies. Copies available on request.

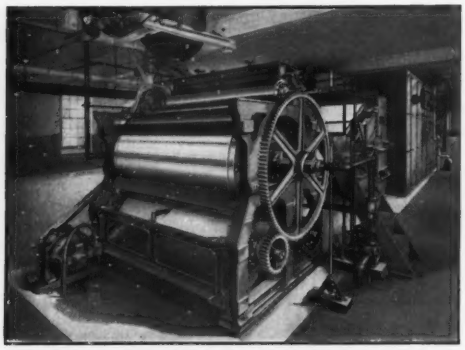
459—White Tar Broadside

White Tar Co., Kearny, N. J., subsidiary of Koppers Company, has issued a broadside describing the company's naphthalene products used for moth prevention. Copies available on request.

460—Davidson Price Report

Davidson Commission Co., Chicago, broker in tallows and greases, has published a price record of fats, oils and by-products from 1927 to 1937. It is the 34th annual edition of price statistics published by the company, and is based on actual trading values. Copies available on request.

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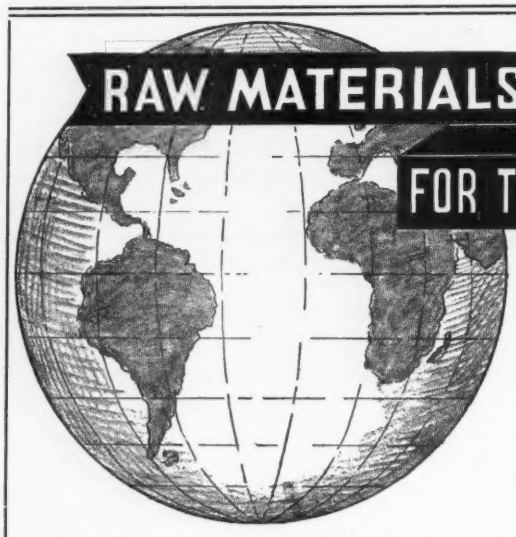
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Alkali in Silicated Soaps

The usual methods for determining free alkali are inapplicable to silicated soaps. The following is recommended for the various determinations needed:

Free Alkali. Boil 100 cc. of 96 per cent industrial alcohol to remove carbon dioxide. Add phenolphthalein and neutralize at 70°C. with 0.1 *N* acid or alkali. Add 10 grams of soap sample in thin shavings and heat on a water bath, breaking up insoluble residues with a glass rod. if necessary, to effect complete solution of the soap. Let settle and decant 50 cc. of clear liquid. Titrate at 70°C. with 0.1 *N* sulfuric acid until the pink color just disappears. Calculate as Na_2O. (1).

Free Alkali Due to Carbonate and Silicate. The insoluble residue from the above includes carbonate and silicate, together with any other filler. Qualitative tests should be made to ascertain the absence of borax, phosphate or other interfering substances. (Zinc oxide does not interfere.) If these are absent the following is recommended: Filter the insoluble residue and wash with 20 cc. of hot alcohol previously neutralized at 70°C. Dissolve the residue in about 50 cc. of water, pour through the filter, and wash the insoluble residue with water. Titrate the solution and washings with 0.5 *N* sulfuric acid, using methyl orange as indicator. Calculate as Na_2O. (2).

Determine the carbon dioxide on another portion of the soap or on the residue insoluble in alcohol by expelling the carbon dioxide by means of dilute sulfuric acid and absorbing the evolved gas in potassium hydroxide solution in the usual way. The apparatus should include a condenser, as it is necessary to heat the acidified soap solution in order to ensure complete evolution of carbon dioxide. From the weight of carbon dioxide calculate equivalent Na_2O as carbonate. (3). The difference between (2) and (3) gives Na_2O due to silicate.

Total Free and Combined Alkali. The following affords a useful check on the accuracy of the separate determinations: Dissolve about 5 grams of soap in hot water, rinse into a separatory funnel and add a slight excess of 0.5 *N* sulfuric acid. Extract the fatty acids with 3 portions of ether and wash the combined extracts 3 times with water. Evaporate off the ether from the combined aqueous liquids and titrate the excess acid with 0.5 *N* alkali to a methyl orange end point. The acid used corresponds to the sum of the total free alkali (caustic, carbonate and silicate), and alkali combined as soap. Evaporate the ether from the combined ethereal solutions and dry and weigh the fatty matter. Determine the neutralization value by dissolving a weighed portion in alcohol and titrating with 0.5 *N* alcoholic potassium hydroxide solution. From this value calculate as Na_2O the alkali combined as soap. The difference between the total free and combined alkali, and alkali combined as soap, should agree with the sum of the three separate determinations of free caustic, carbonate and silicate alkali. For silica present as alkaline silicate, the standard method of the American Chemical Society (Ind. Eng. Chem., Anal. Ed. **9,** 5 (1937)), is recommended. H. E. Cox and Norman Evers. *Analyst* **62,** 865-8 (1937).

Metal Corrosion by Oils

The attack on metals by fatty materials has been determined quantitatively. Large sheets of the metal were two-thirds dipped into the fatty liquid, so that the action of air could also enter in. The tests were run for 20 hours at a temperature of 130°C. The figures in the table are loss in weight in grams by the metal per square meter per hour.

Copper is entirely unsuited for soap kettles and iron very poorly suited. Iron is easily corroded, forming iron salts which are readily soluble and which would therefore remain in the soap, and also forming metallic soap. H. Braun. *Riechstoff Industrie und Kosmetik* **12,** 125 (1937).

Metal	Oleic acid	Oil plus 5% oleic acid	Stearin	Curd fat plus 5% stearin
Copper	2.335	0.627	5.806	0.888
Pure nickel	0.657	no loss	0.098	no loss
Aluminum	0.025	no loss	0.022	0.01
Iron	0.914	0.141	1.241	0.1
V2A Steel	0.013	0.003	0.06	0.003

Magnesia in Hard Water

The Blacher volumetric method of determining the hardness of water is reliable and accurate to within 0.5 part of $CaCO_3$ per 100,000 when determining lime alone or total hardness. The determination of magnesia hardness does not attain the same degree of accuracy, owing to a somewhat indefinite end-point in the final titration against potassium palmitate. For this reason a modification of the method has been made. The method depends on:

1. Titration with acid to determine total alkalinity. This corresponds with the temporary hardness in most waters.

2. The acidified and carbon dioxide-free sample from (1) is neutralized and titrated against potassium palmitate to determine total hardness.

3. A fresh sample is acidified, freed from carbon dioxide, and the magnesia hardness titrated against potassium palmitate after the lime has been precipitated with sodium oxalate. The lime hardness is found by subtraction.

It is in stage (3) that the difficulty with the end-point has been observed. In this stage the lime is precipitated and the magnesia determined. The modification proposed is one in which the magnesia is precipitated with caustic soda, using sodium aluminate as a coagulant to remove the last traces of magnesium hydroxide as in water softening, and the lime then determined. In this procedure the end-point to potassium palmitate is as sharp as in stage (2) or as in the standardization against barium chloride. P. Hamer and H. E. Evans. *J. Soc. Chem. Ind.* **56,** 441-2T (1937).

Solubility Rate of Soaps

An important requirement of a cake of soap from the point of view of the one who uses it, is that it be reasonably durable in ordinary use. Resistance to rapid wearing away is more a property of composition of the soap than of its hardness, e.g., coconut oil soap is very hard, but in contact with lukewarm water becomes soft and dissolves rapidly. On the other hand, the detergent properties of soap are really those of its aqueous solution, and hence in practice the soap should dissolve readily enough to give solutions of sufficient concentration for good detergent action. Such considerations show that rate of solution is an important property. Unfortunately the usual analytical data such as titre, iodine value, etc. do not have a direct enough bearing on this property to be of much value. Method of manufacture may have a marked influence. The rate of solubility of soaps was therefore studied by means of a simple and direct method.

A cylinder of the sample soap was cut out by means of a cork borer as nearly as possible to the dimensions 0.65 cm. in diameter and 1.4 cm. long, the weight being very nearly 0.5 gram. The soap cylinder was placed in a wire gauze cage which was suspended in a definite position in 1 liter of distilled water at 40°C. in a glass beaker. The water in the beaker was stirred at a constant rate with a mechanical stirrer and the time noted for complete solution of the soap. The beaker rested on a cork mat in a thermostat. The results were reproducible within reasonable experimental error. Some of the results are shown in the table below:

The densities of all of the soaps used were approximately the same. The last two soap samples listed are transparent soaps. Experiments showed that glycerine transparent soaps have a comparatively higher rate of solution than ordinary unmilled soaps made from similar fat stocks. Tests with milled and unmilled soaps showed that milling greatly increases the rate of solution.

The method should furnish a means of estimating the relative length of time a given weight of soap is likely to last when put to ordinary use. R. K. Gobhil and N. G. Chatterji. *Indian Soap J.* **4,** 105-10 (1937).

	Time of Solution in Minutes	*m.p. of Fatty Acids in °C.*	*% of Fatty Acids in Soap*
Sunlight soap	4	40.6	75.4
Lux toilet soap	6.5	41.8	80.4
Palmolive toilet soap	6.5	43.2	86.2
H.B.T.I. Jasmine	9	43.5	86.2
Mysore Sandal soap	18	46.2	83.9
Himani glycerine soap	5.5	43.6	50.0
Pears glycerine soap	9.5	42.5	78.0

Italian Decolorizing Clay

The Italian adsorbent clays may be considered as composed of silica, aluminum silicate and water, with small quantities of iron, calcium and magnesium oxides, sulfate and alkalies. The decolorizing power of these clays, either merely dried or activated with hydrochloric acid, was compared with that of a good grade of adsorbent earth used commercially for the clarification of oils. The tests were carried out on both vegetable oil and on light and heavy mineral oils. Montecorvino clay, either crude or activated, in amounts of 1.5 to 3 per cent, had a decolorizing power equal to that of the commercial clay. E. Abbolito. *Ricerca sci.* **7,** II, 504-7; through Chem. Abs.

Removal of Rancidity Agents

An animal or vegetable oil or glyceride of natural origin is subjected to distillation under high vacuum to obtain a product free from protein substances and products causing rancidity. The product may be further treated by passing a current of hydrogen through it. Eastman Kodak Co. French Patent No. 809,700.

Sulfonic Fat-Splitters

Saturated neutral fats are converted in known manner into the corresponding acid chlorides, and the latter are sulfonated by standard processes. The products are then condensed with a phenol to give agents which are suitable for splitting oils, fats and waxes, and also for use as emulsifying agents. Oranienburger chem. Fab. A.-G. German Patent No. 649,156.

Catalysts in Hydrogenation

Mixed catalysts were prepared by reduction of the carbonates of nickel, zinc, nickel-barium and nickel-lead on kieselguhr. Graphs of the results show that the catalytic action of a mixed catalyst varies with the conditions of hydrogenation and the proportions of component metals. The substance may act as a positive catalyst, a negative catalyst, or may have no catalytic action. Sei-iche Ueno. *J. Soc. Chem. Ind., Japan* **40,** Suppl. binding 314-5 (1937).

Hydrogenating Split Fats

In the production of hardened fatty acids, the oil or fat is first partly hydrogenated or partly hydrolyzed and then, in the same apparatus, hydrogenation and hydrolysis are effected together. In an example, 100 pounds of sunflower oil are heated to 200°C. for 2 hours with 0.01 pound of nickel formate in hydrogen at 20 atmospheres; 100 pounds of preheated water are then forced into the autoclave, which is maintained at 180-220° for 3 hours longer. Hans Kaufmann. British Patent No. 468,-170.

Dichlorethane Oil Extraction

Comparative tests were made in the extraction of oil and press cake and crushed sunflower seeds, cottonseed and castor beans, with benzine, petroleum ether, ethyl ether and dichloroethane. The best results were obtained with dichloroethane, giving an extraction residue suitable for animal feeding. A. Chernukhin. *Masloboino Zhirovoe Delo* **13,** No. 3, 7-8 (1937).

Soap Particle Size

Particle size was studied by the ability of the whole molecule of soaps and synthetic wetting agents to dialyze through a semipermeable membrane of cellophane. Dialysis is greater, the greater the tendency of such products to cause skin irritation. Experiments with the potassium soaps of various fatty acids showed that dialysis is favored by the presence of double bonds, as in linolenic acid, or hydroxy groups, as in ricinoleic acid. Among the potassium soaps of the saturated acids, dialysis of the acid radical and of the potassium ion, respectively, dropped from 95.3 to 2.45 per cent, and from 98.0 to 60.7 per cent on passing from potassium laurate to potassium stearate. Similarly, sulfonated products such as Cyclanon L and O, Igepon 702K, KT, T, and AP, showed less dialysis the higher the molecular weight of the fat radical, but the presence or absence of inorganic electrolytes such as sodium sulfate, was without much effect. In general, dialysis can be correlated with the greater tendency of certain cleaning and wetting agents to form true rather than colloidal solutions. H. Kröper. *Fette und Seifen* **44,** 298-301 (1937).

Unsaponified Fat

A quick method for testing for incomplete saponification in the soap kettle is as follows: Dissolve a small portion of the soap in neutral alcohol. The solution should remain clear on strong dilution with distilled water and cooling to 5° C. (40° F.). If the solution does not remain clear, unsaponified fat is present.

A quantitative determination of unsaponifiable fat which can be carried out in 1½-2 hours is as follows: Dissolve 10-25 grams of soap in 100-150 cc. of 50 per cent alcohol containing 0.5 per cent of sodium bicarbonate for neutralization of free alkali. Extract with petroleum ether to remove total unsaponified and unsaponifiable matter. Treat the ether extract with 50 per cent alcohol containing 0.5 per cent of sodium carbonate to remove fatty acids. Evaporate the combined ether extracts. Dissolve the residue from evaporation in 5 cc. of a 1:1 mixture of alcohol and benzene and titrate to a pink color with an $N/30$ solution of potassium hydroxide in 1:1 alcohol-benzene in order to neutralize uncombined free fatty acids. Add 5-10 cc. excess of the $N/30$ potassium hydroxide solution and warm on the water bath with a reflux condenser for 15-20 minutes. Back-titrate the excess potassium hydroxide solution with $N/30$ alcoholic hydrochloric acid. Repeat with potassium hydroxide solution alone to give a blank determination.

Assuming a saponification number of 200 and the use of exactly $N/30$ hydrochloric acid, the percentage of unsaponified neutral fat is calculated by the equation:

$$\text{Per cent neutral fat} = \frac{(a-b) \times 56 \times 100}{200 \times 30 \times C}$$

where a equals cc. of $N/30$ hydrochloric acid for the blank;
b equals cc. of $N/30$ hydrochloric acid for the sample titration;
c equals the weight of the soap taken.

With 10 grams of soap, for example, 1 cc. of $N/30$ hydrochloric acid corresponds to 0.093 per cent of unsaponified fat. *Deutsche Parfümerie-Ztg.* **23,** 458 (1937).

A disinfectant liquid consists of a mixture of formaldehyde, potash soap and cresol. Soc. Suisse d'Antisepsie "Lysoform." Swiss Patent No. 190,551.

Measuring Detergency

The maximum diameter of a liquid drop which will adhere to the underside of a horizontal glass surface may be measured by means of a glass cell with a tight-fitting cover. The maximum drop diameter becomes smaller as the drop number, as determined in a stalagmometer, increases. Measurement of drop diameter as a criterion of detergency is quicker and easier to carry out than determination of the drop number. J. Hetzer. *Fette und Seifen* **44,** 425-6 (1937).

Solubility of Castor Oil

In a Soxhlet apparatus, 89.45 per cent of Rumanian castor oil could be extracted with ordinary benzine, 90.07 per cent with an airplane benzine, 89.92 per cent with cracked benzine, 77.20 per cent with petroleum ether boiling up to 60°C., 94.76 per cent with acetone, 94.8 per cent with benzene, 95.35 per cent with ether, and 100 per cent with trichloroethane. The claim that benzine is not a solvent for castor oil is unfounded. C. Otin and G. Alexa. *An. Inst. Cercetari, agronom. Romaniei* **6,** 244-74; through Chem. Abs.

Oil Impurities

Impurities are removed from oils, fats and waxes by treating them with an extracting agent such as a cyclic aldehyde, e.g. furfural, methyl- or ethyl furfural or an alcohol such as furfural alcohol or tetrahydrofurfuryl alcohol. Normal heptane may be added to the extracting agent. Kodak-Pathe. French Patent No. 809,527.

Oil of Rose Geranium

(*From Page* 29)

in 1932 and 1933 showed the following properties:

	June 7, 1932	Jan. 11, 1933	June 13, 1933
Specific Gravity at 15° C...	0.891	0.891	0.891
Optical Rotation	—12°45′	—12°20′	—12°56′
Solubility	Sol. in 2 to 2.5 vol. of 70% alcohol; turbid with more.	Sol. in 2.5 vol. of 70% alcohol; turbid with more.	Sol. in 2.5 vol. of 70% alcohol; turbid in 4 to 4.5 vol. and more; separation of paraffin.
Refractive Index at 20° C..	1.4677	1.4671	1.4669
Acid Value	2.8	2.8	4.2
Geranyl Tiglinate	24.0%	25.2%	28.1%
Total Geraniol	67.1%	68.0%	68.3%
Menthone	——	9.0%	10.2%

Moroccan Oil of Rose Geranium

That type of oil is very closely related to the Algerian oils. Very limited quantities are now produced in Morocco but it appears that commercial exploitation on a larger scale has not been successful due to the dryness prevailing in Morocco. By further experimenting and choosing more suitable regions along the seacoast where the humidity of the sea might be of benefit, the plants might be more successful. Morocco, in the writer's opinion, still promises good prospects in regard to the production of geranium oil.

Spanish Oil of Rose Geranium

Like the French oil of geranium, the corresponding oil as produced in Spain during the past few years lost considerably in importance due to the present political troubles of Spain and is probably still further diminishing to negligible quantities. Main producing centers were Malvarrosa and Gandia in the Province of Valencia and Medina-Sidonia in the Province of Cadiz. Spanish geranium plants are perennial, lasting on an average about five years. A sample distilled under the writer's supervision several years ago showed the following properties:

Specific Gravity at 15°C...	0.907
Optical Rotation.....	—12°40′
Refractive Index 20°C...	1.4685
Solubility at 20°C.....	Insoluble in 70% alcohol; soluble in 1 volume and more of 80% alcohol.
Acid Value.....	8.4
Geranyl Tiglinate.....	28.9%
Total Geraniol.....	61.3%

The American market for these oils has been only a very limited one, the bulk of production, like the French geranium oils, being employed in some special creations of French perfumery. Like the French geranium oils, they have a very fine rose-like character, but on account of their relatively high price can hardly be used by the American soapmaker.

Madagascar Oil of Rose Geranium

The similarity of climatic and soil conditions prevailing in the geranium regions of Reunion Island and certain parts of Madagascar induced experimental production of this oil in the high plateaus of Madagascar's interior. Small quantities are now distilled yearly in the vicinity of Lac Alaotra in the region of Moramanga. Distillation is carried out by *colons* work as share croppers for their land owners. In this respect and also in regard to types of stills and methods of distillation, production of the Madagascar oil of geranium resembles production as carried out in Reunion Island. A sample of an oil collected by the writer during his stay in Madagascar showed the following properties:

Specific Gravity at 15°C...	0.895
Optical Rotation.....	—8°48′
Refractive Index 20°C....	1.4660
Solubility at 20°C.....	Soluble in 2 volumes and more of 70% alcohol.
Acid Value.....	5.6
Geranyl Tiglinate.....	26.6%
Total Geraniol.....	70.3%

The oil had a good odor, not quite as pronounced and flavorful, yet resembling the Reunion type. Undoubtedly the high plateaus of Madagascar offer conditions under which geranium oil could be produced in competition with the Reunion oils. but so far the quantities actually produced in Madagascar have remained extremely low, amounting to about two and a half tons per year.

Kenya Oil of Rose Geranium

Much publicity has been given, especially in English trade papers, to the development of a geranium industry in the British Colony of Kenya (East Africa). The writer had occasion to survey this newly created industry during his visit in the fall of 1937 and a detailed account of Kenya's essential oil industry in general will be given in later issues of this paper. Suffice it to say that all efforts to produce in Kenya a true geranium oil resembling that of Reunion Island or of Algeria have so far been crowned with little success despite all governmental encouragement and the fine pioneer efforts of Mr. W. J. Dawson of Njoro. The high altitude, the actinic conditions prevailing around the localities of production, it seems, were not conducive to the successful growth of this plant in regard to its yield of oil.

Another variety of geranium, —a cross probably between *Pelargonium graveolens* and *Pelargonium radula* has met with much more success in regard to an economically profitable yield. English planters induced by much encouragement from Mother England, attempted to find a more profitable crop during the years of generally low priced agricultural products and made many attempts toward producing a variety of geranium yielding suitable oil which could break the monopoly held so far by the Reunion and Algerian oils. But all these attempts ended in the fact that the production of true geranium in Kenya is receding while the production of this hybrid was rather successful from the producers' point of view. In fact, the so-called mawah oil has been produced during the last few years in nominal quantities and has been offered on the markets of Europe and the United States.

Oil of mawah, however is quite different from true geranium and in regard to odor represents a cross between geranium and palmarosa. However, being not a true geranium, we prefer to describe the production and the properties of this oil in a separate article and shall confine ourselves on this point to the information that mahwa oil holds out hopes of a low priced geranium oil with good possibilities in soap work although not fully approaching the strength and full odor value of true geranium oil.

Unfortunately, comparatively little is known in the United States about oil of mawah. It deserves its rightful place in the price list of essential oil houses rather than as an adulterant in oil geranium. We have here a case very similar to the one of oil of lavender and lavandin. The American manufacturer of soap can only profit by seeing clearly in regard to the raw materials he is using.

In the next article of this series, details covering the two important types of geranium produced and employed nowadays in large quantities, i.e., Algerian oil and Reunion oil of rose geranium, will be given.

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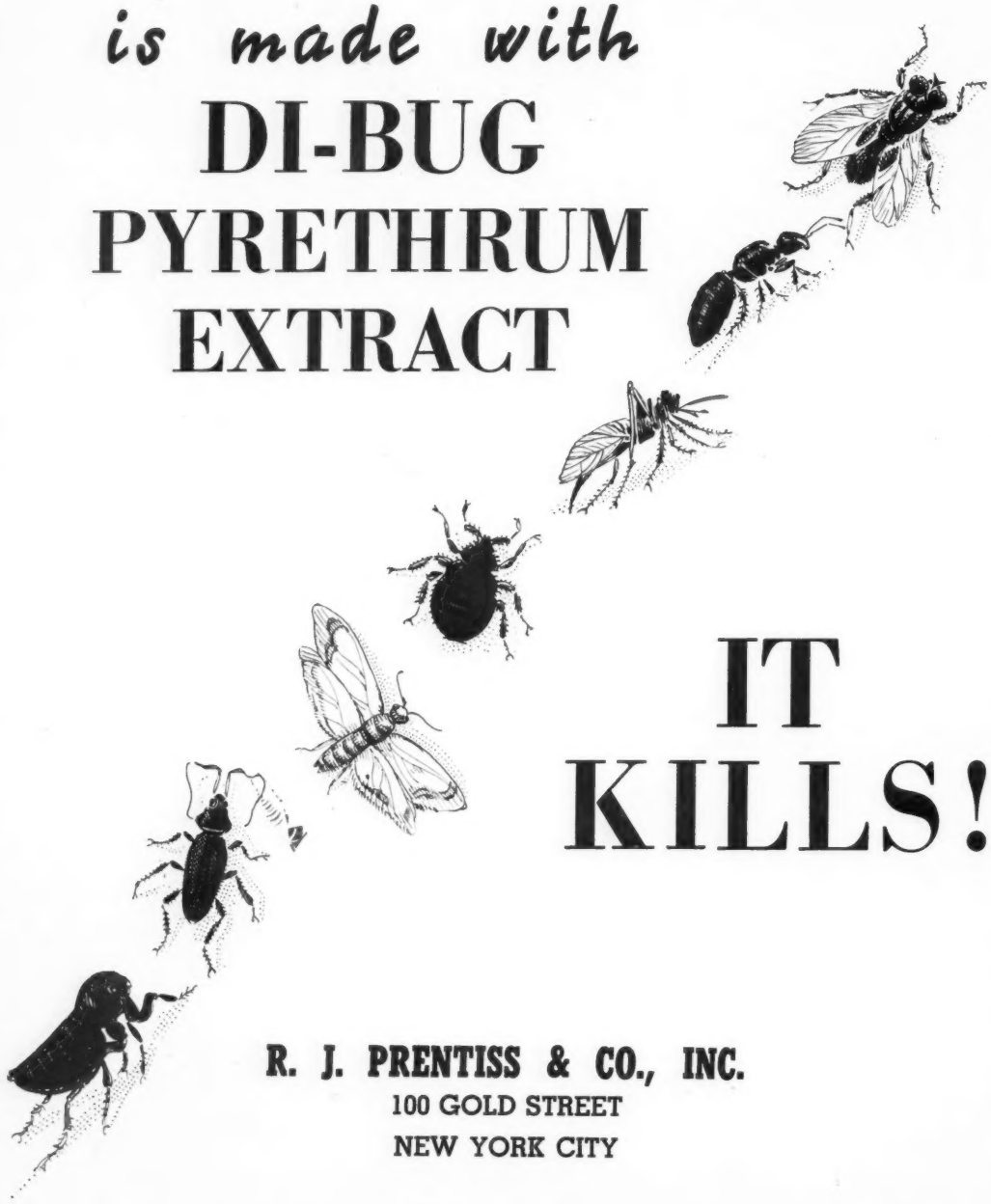
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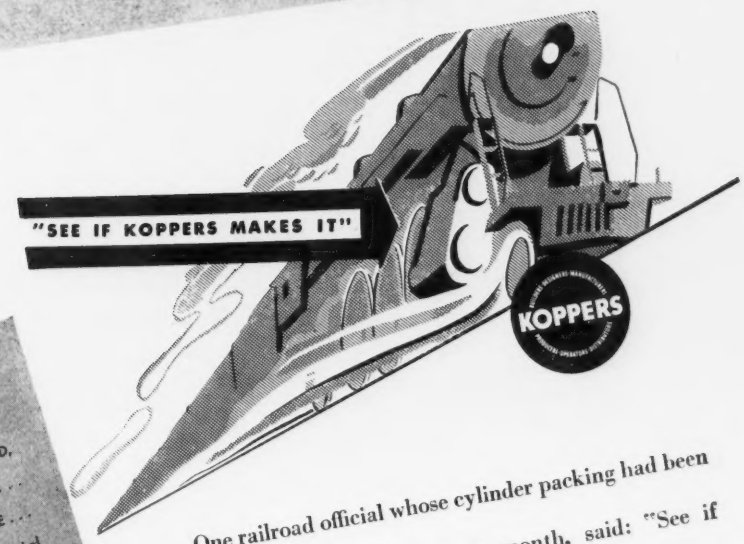
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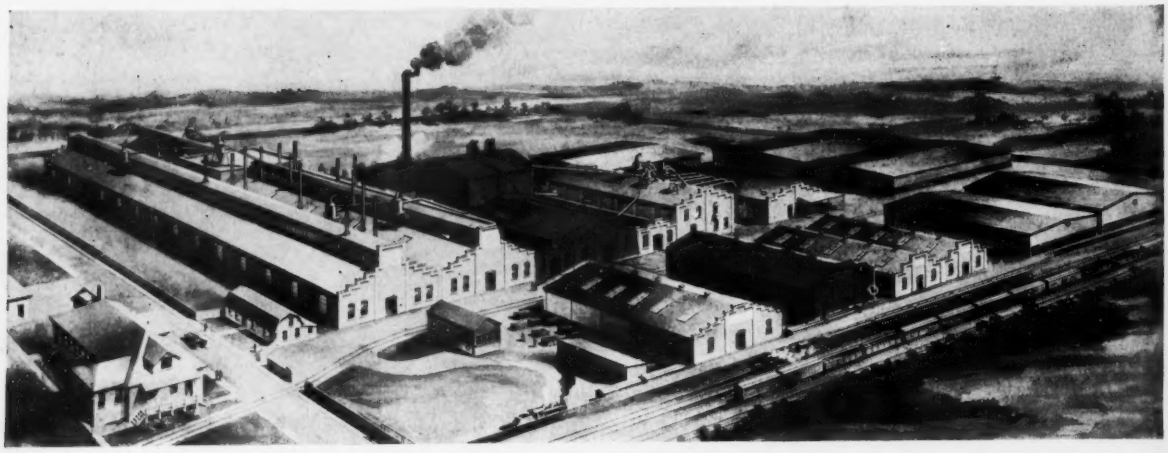
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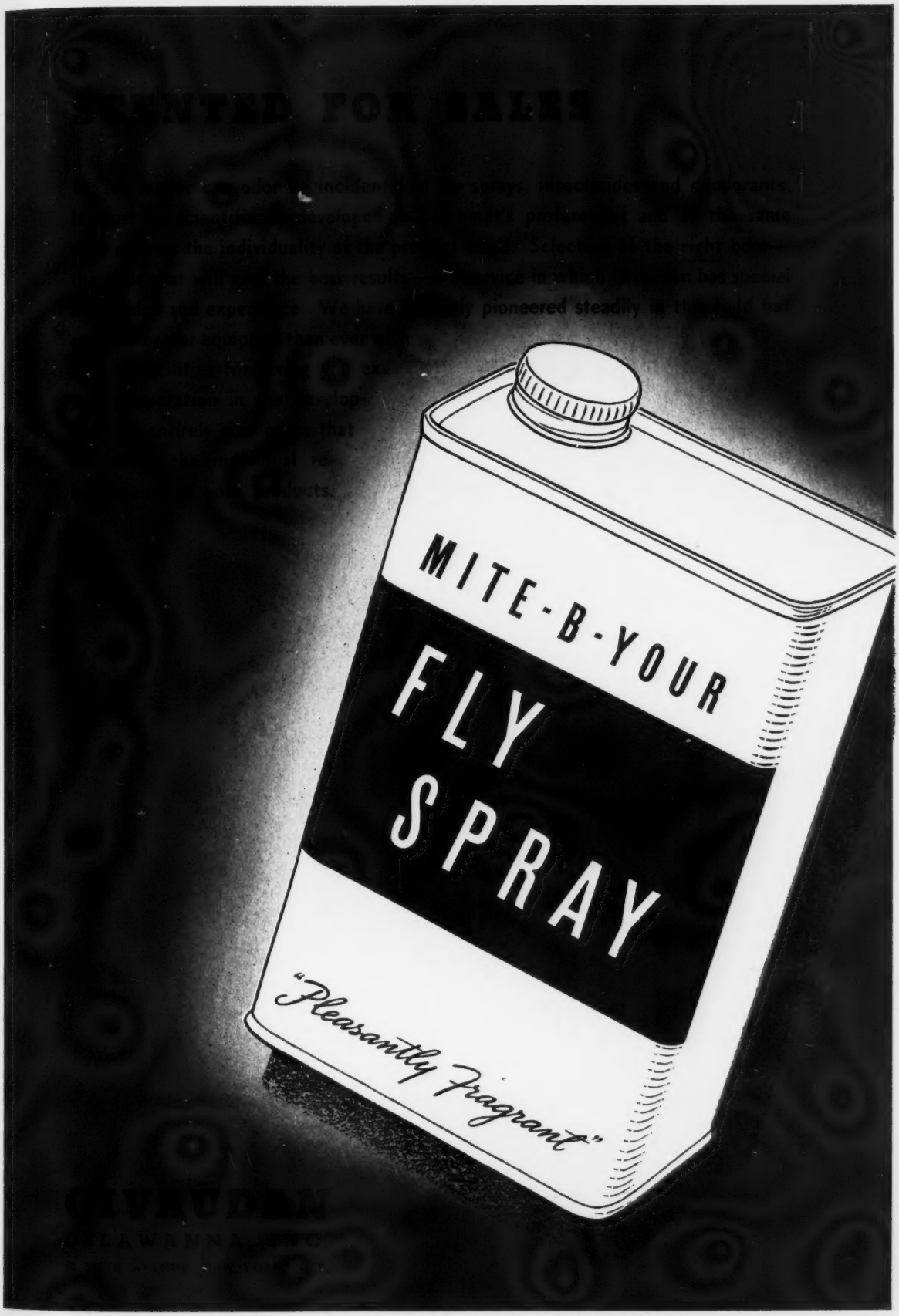
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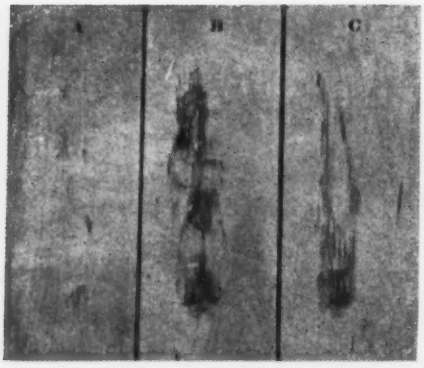
Hydrochloric Acid 50% Solution over night. Zinc Panels Coated.

The Acid Test

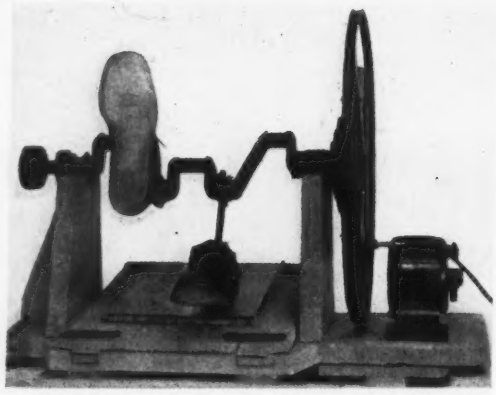
The front of the panel shown above was coated with No-Burn Gym Finish — the back was left uncoated and the panel submerged in a 50% Hydrochloric Acid solution for over 14 hours. The metal was eaten away, leaving the film perfectly intact.

The Soap Test

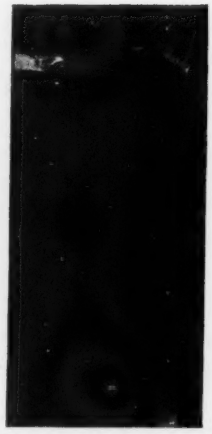
Wood panels coated with No-Burn Gym Finish boiled in 5% soap solution showed practically no effect on the finish.



Panels subjected to abrasion or wear test. 10,750 Revolutions in the Machine.



Scuffing and Wear Testing Machine.



5% Caustic Soda over night. Aluminum Panels Coated.

The Caustic Test

The above panel was coated one side with No-Burn Gym Finish — the back left uncoated and the panel was submerged in a cold 5% caustic soda solution. Result: metal eaten away—the film remained intact.

The Wear Test

The machine at the left gives a practical abrasion test. After more than 10,000 revolutions very little wear was apparent on the finish.

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Most strenuous tests—soap solutions—acid—caustic soda—boiling water—freezing—oil heated to 425°—wear—abrasion, positively prove that Federal No-Burn Gym Finish provides a tremendously hard finish and is by far the best floor finish to use where floors are subjected to constant washing and where acids, alkalis, heat or cold prevail.

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Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

TO say that the rank and file of insecticide manufacturers are worried over the lower prices for fly sprays which some of the leading houses have announced for the 1938 season, is to put it mildly. The industry is very distinctly upset, and the majority see only lost business if they keep their prices up, and lost profits if they bring them down. Several manufacturers have stated that the prices quoted to jobbers in some cases are below their costs of production. They state that the only hope to meet low-price competition is to cut quality, and if they reduce the effectiveness of their sprays, they fear that they will run into trouble with the Food & Drug Administration later in the 1938 season. One manufacturer sees the entire industry losing money this year, a situation, he states, which cannot be changed now as the die is already cast. That the sharpest price competition in many a year is going to bring out numerous off-quality sprays is evident if experience is any guide. Just what this will bring in the way of activity from the F. D. A. remains to be seen.



ANOTHER case of a sanitary supply salesman who has just evaporated from the trade, leaving behind him a trail of victimized employers, has come to light. In each new job, apparently, the man was hired without conferring with his former employer, and in each instance, he proved to be a crook. If this were a new experience in the trade, there might be some excuse, but it has been going on for years. No employer seems to want to injure a man who has worked for him, or wants to keep him from getting another job. At least, this is what some of them say. As a matter of fact, we are inclined to believe that some employers rather enjoy seeing their competitors cheated just as they were, and purposely keep quiet. This is not a very complimentary statement, but we know that it hits close to the truth. Frankly, we believe that it is about time that the trade grew up and undertook a full and honest exchange of references on all employes instead of laying itself wide open to crooks by the present general policy of secrecy.



FROM the Bureau of Purchases for the State of Wisconsin at Madison comes a set of revised specifications covering the purchase of insecticides for use by institutions in that state, and also the announcement of certain contract awards. All in all, the specifications are short, concise, practical, and provide for the protection of the purchaser as well as can be done in this day and age. Where they go into the quality of the pyrethrum to be supplied, its harvesting, curing, color, and the like, they are perhaps somewhat academic,—even optimistic, but altogether correct. Where "pyrethrum-fluoride insect powder" is called for, however, they err. There is no such animal. Insect powder is pyrethrum, nothing else,—the official definition of the U. S. Department of Agriculture. If it contains fluoride, it is not insect powder. It might be termed "fluoride-insect powder mixture," or "pyrethrum-fluoride insecticide," but not what they call it.

Home-made Insect Sprays?

An investigation shows that they are low-grade, dirty, and dangerous, cost no less, and should not be recommended by experiment stations.

RECOMMENDATIONS and formulas for the production of home-made fly sprays and cattle sprays, published by a number of state experiment stations from time to time in recent years, have been a source of annoyance to American manufacturers of insecticides. This annoyance has not come altogether from the fact that the manufacture of these products at home or on the farm tends to take the business away from the insecticide manufacturer. Of course, this has played some part in the protests which have come from manufacturers, but a reason of equal prominence in the protests against the dissemination of this type of information is the fact that in most cases the information has been faulty and misleading,—and in some cases dangerous. One experiment station even recommended the use of gasoline in making a household fly spray.

Taken as a whole, the work of state experiment stations in aiding the farmer has been of high calibre. In improving farming methods generally, and in the protection of crops against insect and other dangers, they have done a great deal to raise the level of agriculture throughout the country. Where any criticism has been leveled at those who operate the experiment stations, it has usually been when they depart from things in which they are admittedly expert, and wander afield,—in the case of recommendations and methods for making home-made fly and cattle sprays for example. In this respect, not all stations have erred. In some cases, the handling of the household insect problem on the farm is very well done, indicating extensive experience and knowledge in this particular field. However, a sufficient number of stations have given sufficient faulty advice to their farm populations to warrant looking into the subject and showing that they are likely to do more harm than good.

Among the things which have brought specific criticism from insecticide manufacturers and from others who are more thoroughly familiar with the manufacture and use of insecticides, has been the general recommendation to make a liquid insecticide at home by stirring up powdered pyrethrum in kerosene, decanting off the top fluid, and using it as a spray in and about the home. The insecticide industry found out ten years ago that this kind of a process and even refinements of this method just could not be used to make a product which might be usable or of practical value from the efficiency angle. Had any experiment station tried out its own recommended method and actually tested the product on a scientific basis by the Peet-Grady Method, it could do nothing else but find out the same thing. As a matter of fact, if they had tried to test one of these products by the Peet-Grady Method, they would probably have found,—just as others have found,—that the finished spray contained so much residue and plain muck that it would not pass through the DeVilbiss atomizer to make the test.

Some of the recommendations for cattle sprays are in the same class with those for household fly spray. Impelled by the urge for cheapness in order to save the farmer money, all sorts of materials have been given in suggested formulas. Drained crank case oil, waste machine oil, kerosene, tar oils, insufficient or no pyrethrum or other killing agent, and the usual method of procedure were some of the mistakes. Recommendations which were long since outmoded revealed that many of the experiment stations give evidence of being wholly unaware that progress had been made in insecticide manufacture during the past ten years, and that established scientific methods of manufacture had some time ago replaced the rule of thumb.

Today, there are thousands and thousands of dollars tied up in equipment for insecticide manufacture. The firms which bought and installed this equipment did not do so because they enjoyed spending the money. They did so because they found as the industry progressed that this newer and improved equipment was essential in manufacturing in-

secticides which come up to present-day standards of quality and meet competition. If insecticides of even passable quality could be made without this equipment, there is reason to believe that much of the equipment would not have been installed. And even with the latest equipment, some manufacturers have trouble from time to time with the quality of their products. Knowing this situation, how could any experiment station recommend a product made in a pail and stirred with a stick, and finished by simple decantation? Far better it would be to suggest to the farmer that he make his own hypochlorite for sterilizing his dairy equipment. For with a barrel of caustic soda solution and a cylinder of chlorine, he would stand a much better chance of ending up with a usable product than he would in making his own household and cattle sprays.

First of all, these experiment station booklets suggest the purchase of "pure ground pyrethrum flowers." Where to buy this product? And how does the farmer know it is "pure" or "fresh" when he buys it? It might have been kept in an open barrel for a year or two before he bought it. At best, the average seed or feed dealer knows nothing about the product he is selling if he does happen to have some in stock left over from last year or the year before. Our investigation showed that pyrethrum is a very difficult commodity to buy in small quantities at retail unless it is bought in small branded containers ready for use in the form of fine powder.

In order to prove definitely that these recommendations for home-made fly spray were faulty and misleading, the latest booklet on the subject from a state experiment station was taken and the directions followed. Mark that these were the recommendations of one of the more progressive stations, not one of the states whose literature revealed a gross ignorance of this and several other subjects. The booklet taken was issued in September, 1937, and the directions stated: "Kerosene extract of pyrethrum can be made by mixing 12 oz. of pure ground pyrethrum flowers with one gallon of water white kerosene. The mixture should be stirred occasionally for two or three hours, and after allowing the pyrethrum to settle, the clear liquid may be poured off ready for use."

In conjunction with a well-known insecticide laboratory, the investigation was begun. First of all, the attempt to buy pyrethrum in the country districts was met with failure. It just could not be bought. In a large city, some many miles distant, a few pounds were picked up at a store which sells seeds and horticultural specialties. And the price was 55c per pound! (This was last December. It is probably higher today for pyrethrum has gone up.) The next step was to test the pyrethrum chemically for pyrethrins by the Seil Method. This was done and showed 0.73 per cent pyrethrins. Not such bad pyrethrum under the circumstances.

Then the job of going through the process of "manufacture" was undertaken. The selected 12 ozs. of ground pyrethrum was macerated "in a gallon of water white kerosene" for the specified time with stirring as directed at thirty-minute intervals in a clean two-gallon open metal pail. The mixture was permitted to settle for 30 minutes before decanting off the liquid. This latter was very cloudy due to the fine particles of pyrethrum in suspension. (Fine powder was used. Granulated pyrethrum usually used in the trade for extract manufacture does not get into retail channels.) The resultant "clear liquid" had to stand for 20 hours before it had settled out sufficiently so that it would pass through the De Vilbiss atomizer when sprayed for testing by the Peet-Grady Method. Attempts to get the liquid to pass through the atomizer before that time merely resulted in clogging it up. When tests were finally run, the spray yielded a knockdown of 87 per cent in ten minutes and an average 24-hour kill of 35 per cent ($\pm$ 3 per cent). When tested chemically by the Seil Method, the spray was found to contain 51 mg. total pyrethrins per 100 cc.

Taken on the basis of both the biological and the chemical tests, this home-made spray is just about *half as potent* a fly killer as the average fair grade commercial product. Experience has demonstrated that the average commercial household fly spray contains the equivalent extractives of one pound of 0.9 per cent pyrethrins pyrethrum flowers per gallon, and should show 100 mg. of pyrethrins per 100 cc. This commercial product tested biologically by the Peet-Grady Method gives an average knockdown of 97 to 99 per cent in ten minutes, and an average kill in 24 hours of 65 to 67 per cent.

The shortcomings in the home-made product, however, are not altogether in its lack of power to kill the insects. If directions were followed as given and the product containing the large quantity of suspended solid matter were used, the damage resulting from staining shades, wall-paper, draperies, silks, etc., might be great, for products which contain residual sludge were found in the trade some years back to be the cause of numerous complaints of staining. In fact, the official specification for fly spray of the National Association of Insecticide & Disinfectant Manufacturers states that the product shall not stain anything which is not stained by dry cleaning fluids. This would not have been written into the specification were it not to guard against sub-quality products made with off-grade oil or containing suspended matter which is known to be the chief cause of staining. When atomized on white fabric, the home-made spray stained the cloth and the stain was still prominent 24 hours after the test was made, showing that it was a permanent stain which would not be removed by evaporation. Undoubtedly, a product of this type containing a large amount of suspended matter, would also tend to clog the hand sprayer used in its application, giving rise to shaking and other agitation to clear the nozzle which in turn might cause squirting

and a further aggravation of the staining problem.

Little need be said regarding the use of ordinary kerosene, be it "water white" or any other kind, as a base for household insecticide. No insecticide manufacturer who makes a product that lays a claim to any degree of quality, uses "run-of-the-mine" kerosene. There are any number of petroleum distillates that have been especially designed for the purpose. They cover a wide range of prices and quality, but all of them are superior to kerosene. In odor alone, kerosene is a widely varying product. Even regular kerosene with the least objectionable odor is bad enough when covered with a suitable perfume. In this day and age, ordinary kerosene may have its place as a base for cresylic bedbug liquids for use in Bowery "flop-houses" but it certainly has no place in a product to be sprayed around the home.

Now as to the cost of the home-made spray. This is the only place, where gallon for gallon, the home-made product appears at first glance to hold an edge, but if the insecticidal strength is analyzed, it is obvious that the cost of the commercial product is no greater, if as great, particularly today with lower insecticide prices. In the first place, by the home-made method of preparation, 25 per cent of the insecticidal value of the pyrethrum is lost, according to the tests made. The cost per gallon to the farmer, allowing nothing for waste in the sludge on the bottom of the pail which is thrown away, is close to 60c per gallon for a half-strength product. The commercial sprays in gallons retail all the way from 80c to $1.25. If the farmer bought a gallon of commercial fly spray and diluted it with another gallon of his "water white" kerosene, he would still be even up financially and well ahead of his home-made product in other respects.

Accordingly, it is believed that in the best interests of the farmer, particularly his financial interests, that it is wise not to recommend to him the home-made manufacture of fly spray. And for obvious reasons, the same is true of his stock and barn sprays. To avoid the danger of contaminating his milk, or burning his stock, or other misfortune from being "penny wise and pound foolish," his safest course is to put up with the flies or to purchase a commercial product behind which is the research, knowledge, and experience of a reputable manufacturer. For, of what help is it if he save two dollars on his season's supply of stock spray and pay out ten times as much in veterinary bills or in spoiled milk?

While discussing what are believed to be the errors of some stations, it might be pointed out that a few of them who apparently have had considerably more experience with household products and their commercial manufacture, avoid giving advice on home manufacture. In the latest bulletin of the Indiana Experiment Station at Lafayette on "Insect Problems in the Home," for example, where control of each type of insect is discussed, no recommendations for making insecticides at home are given. In the case of control of flies and mosquitoes, this bulletin states: "Several household fly sprays under trade names are now on the market and are useful in destroying mosquitoes and flies in rooms and other enclosed spaces." Although much space is given to standard methods of preventing breeding and other control, this method of handling the subject of prepared insecticide products is probably based on a more intimate knowledge of circumstances surrounding the raw materials, manufacture, and character of finished household products. It so happens that officials of the Indiana station have been rather close to the problems of practical household insect control on a commercial scale and are probably in a better position to appreciate the shortcomings of a home-made product as pointed out here.

In general, an attempt has been made in the foregoing to establish a case against the home-made fly spray or cattle spray on the basis that the farmer will lose rather than gain by making his own products. It is suggested that in the interests of the farmers of their respective states that experiment stations do not give out further information of this type, or if they do, make certain by scientific test in advance that their recommendations are not misleading or potentially harmful. It is also suggested that experiment station officials bear in mind that thousands of dollars have been spent on research and improved equipment and manufacturing methods by firms in the insecticide industry, and that the better commercial products on the market today reflect this background,—in short, that the "pail and stick" manufacture of insecticides has for some time been a thing of the past. A standard commercial product is safest, surest, and cheapest in the long run.

—— ♦ ——

The sample is extracted under reflux with ethyl acetate. The extract is concentrated to a syrup, mixed with enough active vegetable carbon to make a dry powder, and re-extracted with a known volume of carbon tetrachloride which has been saturated with rotenone at a known temperature (18°C.). For convenience in extraction the solution may be diluted with carbon tetrachloride. The extract is evaporated to the original volume and set aside to crystallize at the original temperature of saturation. After 24 hours the rotenone crystals are filtered off and weighed.

The Durham reaction for rotenone with nitric acid, followed by neutralization, succeeds only in the cold. Emmanuel Pozzi-Escot. *Rev. cienc.* (*Peru*) **38**, No. 420, 41-6, 47-51 (1937).

—— ♦ ——

A product suitable for disinfecting and bleaching purposes consists of calcium hypochlorite and sodium metaphosphate, to which soap may be added if desired. The metaphosphate is present in such proportion as to render the mixture soluble in alkaline solutions. Charles B. Durgin. U. S. Patent No. 2,097,517.

Disinfectants and Deodorants

A discussion of their composition, application, new products and trends, and the market outlook

By Harold Silman

NEW outlets and markets for disinfectant materials are a matter of the keenest interest to the English manufacturers, and the larger organizations are constantly engaged in research with the object of finding new applications. Improvements are also being effected in existing products and processes with the object of meeting in particular increasingly more rigid specifications of Public Health Authorities.

The coal tar disinfectants are still among the most widely used disinfectants, particularly those containing higher phenols. These phenols comprise cresols, cresylic acids and related compounds in which alkyl or fatty groups have been introduced into the benzene nucleus.

In the interests of national security, Britain is paying increasing attention to two newer processes for the utilization of coal, viz. hydrogenation and low temperature carbonization. Designed primarily for the production of oil from coal, a number of interesting by-products have been rendered commercially available by these processes. These are not, generally speaking, of any great advantage from the disinfectant point of view, but many of them have some valuable characteristics as blending ingredients in a variety of products, and will be referred to in greater detail later.

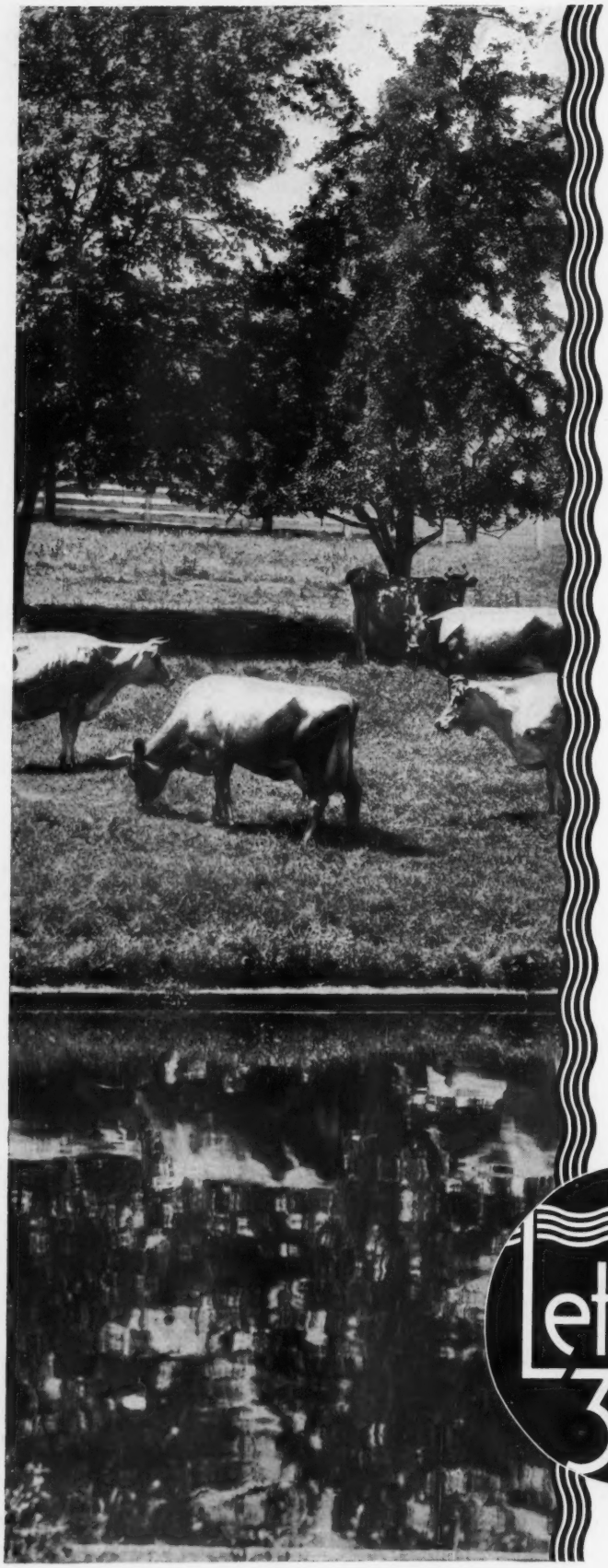
Coal distillation is carried on primarily for purposes other than the manufacture of tar acids and disinfectant materials. The manufacturer of disinfectants is therefore somewhat restricted at the beginning with regard to the quality he can demand in his raw materials. These demands are somewhat stringent and considerations of specific gravity, phenol coefficient etc., are of great importance if the material is to be suitable for many purposes. Many tar distillers are, nevertheless, paying increasing attention to the disinfectant and agricultural markets, and by careful blending of suitable fractions and close control of the distillation process itself, superior raw materials are gradually being made available. Factors such as a narrower distillation range, specific gravity closely approaching unity, low naphthalene content and good light color are the main considerations from the disinfectant manufacturer's viewpoint.

The precise nature of the constitution of the various fractions is very complex; for practical purposes, therefore, the physical and bacteriological characteristics are sufficient, and coke-ovens operating under closely controlled conditions are, moreover, able to produce distillates which will adhere to such predetermined specifications very closely indeed. It is of great importance to the disinfectant manufacturer that his raw materials should be obtainable at any time without serious variation in properties in order that he may be able to maintain standard methods of production without difficulty. This has by no means always been the case.

The value of high grade distillates in the manufacture of disinfectants has been realized by many British coke-oven plant owners. Certain distillers, having developed a particularly good type of cresylic distillate, have formed subsidiary companies for the purpose of taking the whole of their output of such, and processing them for direct sale to the public as commercial disinfectants.

There appears to be little doubt that the fineness of the dispersion of disinfectant emulsion is one of the most important factors in determining the disinfecting powers of the product. Large globules are possibly unable to come into sufficiently close proximity to the organisms to assert their germicidal action. Two types of tar acid disinfectants are recognized, viz. the "white fluid" and the "black fluid" types. The white fluid disinfectant is, in fact, a concentrated emulsion, prepared on a base such as oleic or castor oil soap, and stabilized with glue, gelatine, casein or dextrin, etc. Sulfonated oils are very often incorporated to assist the emulsification. The materials are mixed, with stirring, in a steam-jacketed pan, and the final stages of emulsification are carried out by means of a mechanical emulsifier or colloid mill. The last operation is considered advisable on account of the great difficulty in preparing stable emulsions no matter how carefully the formula may be compounded. Properly prepared emulsions of this description should contain not less than 250,000 particles per cubic millimetre.

A typical procedure would utilize the following:



CATTLE SPRAYS *made with* LETHANE 384 *have greater* REPELLENCY

Lethane 384 provides superior repellency sustained over a longer period of time than other agents. Carefully controlled tests on our own herd for three years have established these facts.

The outstanding repellent qualities, as well as the quick knockdown and high-kill characteristic of cattle sprays based on Lethane 384, account for the popularity and success of many nationally and locally distributed sprays.

Based on Lethane 384, your cattle spray will enjoy increased acceptance. Your benefit will be not only profits from increased sales, but also savings in cost of active agent.

RÖHM & HAAS COMPANY, INC.
222 West Washington Square, PHILADELPHIA, PA.
Chicago • Kansas City, Mo.
Canadian Agent, P. N. SODEN & CO., LTD., *Lachine, P. Q., Canada*

Lethane 384

Synthetic Insecticide Concentrate

	Parts
Cresylic acid	16
Cresylic creosote	2
Sulfonated castor oil	2
First quality glue powder	1
Water	15

The glue is dissolved in the water and the sulfonated oil added. The temperature is then raised to 120°F. and the mixed tar acids incorporated very slowly with vigorous stirring of the mixture. Final emulsification is carried out mechanically as has already been described.

The emulsion is marketed in as concentrated a form as practicable, but it is not feasible to make emulsions of this description to contain less than about 40 per cent of water. Should there be less than this proportion present, inversion takes place, the oil becoming the external phase in the emulsion. The product is then incapable of further dilution.

White fluid disinfectants, being prepared from high - boiling phenols, have a very low degree of toxicity and are marketed for general and medicinal use. The disinfectant is utilized in varying concentrations for the treatment of cuts and abrasions, for surgical purposes and for the disinfection of floors, utensils, drains, etc. Insofar as a considerable proportion of the sales of these disinfectants is to public health and hospital authorities, steps are taken by manufacturers to keep in close contact with the requirements of these bodies.

Naturally, in order to cammand a market for a product of this description, a good case must be made out for its use in preference to cheaper materials and much research is carried out with this end in view. Special attention is given to the Rideal-Walker coefficient. It is realized that this coefficient is of very limited value when applied as a criterion to a general disinfectant, but in the absence of a better standard, public health authorities attach great importance to it. Government departments which formerly had standards of their own, now tend to specify materials of prescribed Rideal-Walker coefficient.

The white fluid disinfectants present a variety of technical trouble to their manufacturers, the chief of which is the stabilization of the emulsion. No one manufacturer can be said to have completely solved this problem and troubles due to separation and "creaming" of the fluid are a regular problem of the industry. Most manufacturers attempt to minimize complaints due to these defects by the use of opaque or dark colored bottles.

Naturally, the manufacturer of a widely advertised disinfectant is always seeking fresh outlets for its use, in addition to new customers. The makers of white fluid disinfectants have made numerous attempts in their laboratories to utilize them even as mouth washes and in tooth pastes. The limitations of the materials in this respect lie in the fact that they are very sharp tasting and even in the smallest proportions, the burning sensation they produce on the tongue is definitely unpleasant, and has been distinctly unfavorable for their utilization for oral hygiene. Disinfectants of this type have, however, been introduced into soaps both for general household and for toilet use. In this case, the tar acid is added, generally in very small amount, sufficient to provide the characteristic phenolic odor. The household type of this soap is generally colored red, while the toilet soap may be white, green, or lilac, etc.

The black fluid type of disinfectant in which emulsification is effected by means of a soap solution such as rosin soap, is cheap and simple to prepare. Black fluids generally contain about 25 per cent of tar acids and are not radically different in appearance from the cresylic creosote from which they are made. Emulsions prepared from them have generally a higher phenol coefficient than white fluids made from the same tar acid fraction and used in corresponding concentration. Where dispersion has to be effected in hard water however, they are not always satisfactory since part of the soap is precipitated by the salts present in the water, and emulsification will not take place unless the soap is present in excess. Similar considerations apply when used in saline solutions such as urine. In cases such as these, the use of white fluids is preferred.

White fluid disinfectants have been shown to be of some value in the disinfection of the skin, and one prominent British concern recently started an advertising campaign in which their product was recommended for adding to the bath in order to maintain the skin in good health. A certain amount of research was also carried out to determine to what extent, if any, this disinfectant was carried into the blood-stream by the pores. The results appear to have been somewhat indeterminate.

Lysol*, which is official in the British Pharmacopoeia, still enjoys a considerable market as a personal disinfectant despite its comparatively high toxicity when used in the required concentration, and its corrosive nature. It has however the advantage that its solutions are clear which is of value when articles such as surgical instruments have to be sterilized. Even this is being negatived to some extent by the acetylation or sulfonation of the higher phenols themselves whereby they become soluble, eliminating the need for emulsification. The phenol coefficient is, as a rule, not greatly altered by the process.

Phenolic vapor is to a certain extent utilized for the disinfection of rooms which have housed cases of infectious diseases, and this method of disinfection is stated to have certain advantages. The vapor is produced instantaneously at a high temperature by dropping the phenolic substance (either alone, dissolved or mixed with other volatile materials) on to an electrically heated plate. The disinfectant is volatilized and penetrates into every part of the room. The higher homologues of phenol are unsuitable for this type of vapor disinfection since their higher molecular weight gives them low-

* Lysol, B. P. is not to be confused with the American trade-marked product of the same name.—Ed. Note.

New!



Patented Jan. 25, 1938

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Pressure Sprayer

for permanent installation
in systems spraying

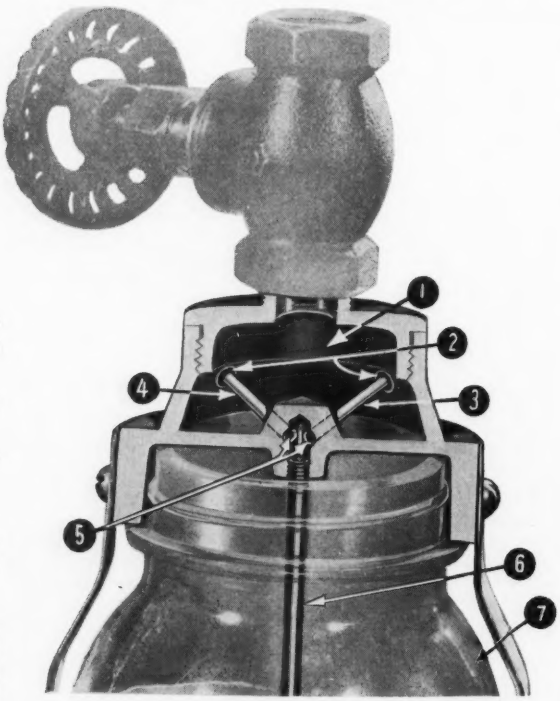
INSECTICIDES
DEODORANTS
FUMIGANTS

in creameries, dairy barns, food, tobacco plants, hotels, theatres, etc.

ADVANTAGES OF THE MIST-IC

1. Operates on steam or air pressure of 25 lbs. or more.
2. FOUR NOZZLES mounted at a 30 degree upward angle force spray solution twenty feet in every direction.
3. No drip as pressure which forms the vacuum completely surrounds spray solution tubes. (See diagram.)
4. Permanently adjusted nozzles not affected by expansion or contraction.
5. No moving or wearing parts.
6. When used on steam line, PREHEAT CHAMBER 5 (see diagram) vaporizes liquid solution, resulting in 100% atomization.

MISTIC Pressure Spraying Equipment is of particular interest to manufacturers of insecticides, deodorants, and other spray products, as well as sanitary supply and service organizations, as a means of increasing the sale of all spray products.—and assuring repeat business. Write us today for full information.



CROSS SECTION VIEW OF MIST-IC

MIST-IC application and operation—One MIST-IC unit is installed for each twenty thousand cubic feet of space. A permanent installation is made to a steam or air line within reaching distance from the floor.

The pressure from the steam or air line enters chamber 1 and is released through vents 2. The released pressure passing by the upper ends of tubes 3-4 creates a vacuum. This vacuum at the ends of tubes 3-4 creates a suction which draws the spray solution through PREHEAT CHAMBER 5 and main feed tube 6, emptying supply jar 7.

MYSTIC PRODUCTS CO.

417 North Fifth Street
Minneapolis, Minn.

er penetrating powers and also renders it more difficult to volatilize them. Recent work has indicated that with an atmospheric concentration of .42 per cent (5 oz. per 1,000 cu. ft.) of phenol, lethal results can be obtained with *B. Typhosus* in half an hour, similar results being obtained by exposure of half an hour to an hour with a concentration of half this amount. Concentrations of less than .21 per cent gave variable results.

A minimum exposure of thirty minutes is necessary since the antiseptic action depends upon the condensation of the phenolic substance upon the contaminated surfaces. In practice it is found that most of the phenol condenses in the lower parts of the chamber which is desirable, and the amounts condensed are of the order of .0025 to .0031 grammes per square inch after thirty minutes at an atmospheric concentration of .42 per cent. Phenol vapor does not attack metals, furniture or textiles, although it may be explosive when mixed with air.

THE halogenated coal tar derivatives are used extensively as disinfectants and in many medicinal and industrial products. There has been an increasing tendency of late to incorporate them in cutting oils. It is well known that machine workers coming into contact with cutting oils tend to develop boils, sores and skin ulcerations which are slow-healing and painful. These may be brought about by abrasions of the skin, caused by small particles of metal in the oil, which subsequently become infected. Formerly phenol or cresylic acids were used exclusively, added in small amount to act as disinfectants. Of late however, it has been found that chlorinated phenolic homologues are considerably more effective in this field than the older materials and are tending to replace them. Iodized phenols are also used but to a much smaller extent. As regards quantity, the general practice in England is to add one part of halogenated phenol to about 2,000 parts of cutting oil.

Chlorinated xylenols have found some application in the manufacture of moth-proofing compounds, but paradichlorobenzene and naphthalene still remain the staple ingredients of anti-moth compositions. In the spray type of moth killer, some use has been made of ethylene dichloride, carbon tetrachloride, etc. as solutions and also emulsified in various ways. One composition uses these with diglycol oleate as a dispersion agent. The use of toluene sulfo-dichloramide as a disinfectant is the subject of a patent. The chlorinated disinfectants have, besides these uses, found application as all-purpose non-toxic antiseptics for household use. They are usually marketed under trade names as simple 1 per cent aqueous solutions, sometimes containing small amounts of simple salts such as sodium chloride, sodium sulfate, etc. Their odor is not very pleasant and this militates somewhat against their use.

Disinfectants based on sodium hypochlorite solutions are exceedingly popular in England right now and are advertised to perform a multitude of jobs. Their activity in the presence of albuminous matter makes them especially suitable for gargles and mouth washes. They are used for personal disinfection and for the sterilization of infected fabrics and other objects. Their bleaching action is sometimes an advantage and sometimes the reverse.

THE essential oils and related oils are in some cases useful disinfectants and various mixtures of them are marketed as such, often being guaranteed non-poisonous. Pine-oil is outstanding in this class. Its excellent emulsifying, detergent, disinfectant and aromatic properties render it an invaluable ingredient in a considerable variety of preparations, such as disinfectants, sprays, deodorants, soaps, and in some preparations for industrial purposes.

The common pine-oil disinfectants are prepared on a base which may be a rosin, linseed, or other soap. A typical procedure is as follows: 4 parts of rosin are melted at 80°C. and an equal amount of a 12½ per cent solution of caustic soda is gradually added stirring briskly for twenty to thirty minutes. At this stage 7 parts of pine-oil are introduced with constant stirring. A thick brown liquid results which can be marketed as such. It gives milky emulsions of pleasant odor and good disinfectant properties. Other essential oils may be introduced, but the most useful addition, however, is bornyl acetate since this fortifies the odor considerably.

A better class of product, which forms stable emulsions in hard or salt waters may be prepared by the use of triethanolamine oleate. In this case 2 parts of triethanolamine are dissolved in 100 parts of water and stirred into a mixture of 5 parts of commercial oleic acid and 90 parts of pine oil. Spontaneous saponification takes place and on cooling the mixture is ready for packing. This oil gives a fine, stable emulsion in hard or salt water.

A form of pine oil product which has found increasing favor during the past year or so among British manufacturers is the pine block. The disadvantages inherent in the usual pine liquid of emulsifying concentrate is its tacky nature which makes it somewhat awkward to handle while preparing the dilution, and the cost of the bottle becomes an important factor in the ultimate selling price. The pine block is cheap, clean and convenient, and if properly prepared can be dissolved quite quickly in hot or cold water to produce a satisfactory emulsion. The general method of manufacture is to increase the rosin soap content during the saponification process, until on cooling, solidification takes place. The liquid is poured into large shallow trays and ultimately divided into small blocks by the means of wire cutters.

An alternative method is the use of trihydroxyethanolamine lino-

(*Turn to Page* 121)

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Plant and Laboratories . . . . Bayonne, N. J.

Insecticide Tests on Wild Flies

Fly spray found more effective against wild flies than those reared in laboratory for testing purposes

By C. A. Murray and H. L. Caler

Baldwin Laboratories, Inc.

FOR several years, considerable effort has been expended to make the Peet-Grady Method of evaluating liquid insecticides (1) as accurate and reliable as possible. During this time, Peet-Grady comparative results have been greatly overemphasized in the selling and advertising both of raw materials and finished household insecticides. The insecticide manufacturer is besieged to increase the toxicity of his spray with a specific toxic ingredient or numerous stepping-up materials. Greater kill products are offered to the public. Users of large quantities of insecticide materials issue specifications calling for products of much greater strength than is necessary to perform the desired task. But only slight information, beyond that of conjecture, has been available on the relation of the results of laboratory tests to the practical control of flies in the home, factory, or restaurant.

In order to obtain some concrete information on wild fly susceptibility together with relevant factors, and to obtain a measure of the relation of Peet-Grady results (samples compared to the Official Test Insecticide) to practical control, a series of Peet-Grady tests was conducted on wild flies during the summer of 1937. The results of these tests, together with an analysis of the data, are presented with the belief that the information contained will prove of much practical value to manufacturers and users of household insecticides.

At approximately weekly intervals, beginning August 13, 1937, wild flies were collected from each of two farms about a mile and one-half apart at Saegertown, Pennsylvania. Nearly 1,000 flies were collected from each farm by netting them from around the indoor feeding troughs of hogs and horses. The flies from each farm were caught in the forenoon, placed in separate rearing cages, brought to the insectary, and food, consisting of a mixture of condensed milk and water, was placed in the cages. The flies were not tested until at least two hours after the food had been offered them. Food was also present in the rearing cages during the time flies were removed for testing. As more flies were caught than tested, the injured and inactive ones remained in the cages.

In appearance, size, and general activity, the wild flies seemed to be similar to laboratory reared flies. On one day, 9/14, when the flies were collected, the temperature was unusually low and the flies were very inactive, remaining clustered on the inside walls of the buildings. It was necessary to brush them from the walls into the net. However, these flies became active and apparently normal after being in the insectary a short time.

Six tests, using an average of 121 flies per test, were made from each cage of flies. A standard Peet-Grady chamber was used, with paper on the floor, the paper being changed and the sides and ceiling being wiped dry after each test. Fourteen milliliters of insecticide (N.A.I.D.M. Official Control Insecticide, 1937) were used in all tests and the flies exposed for a period of four minutes to the action of the insecticide. This procedure is identical with that used on reared flies in this laboratory.

The tested flies were placed in recovery cages, taken to the insectary, and given food. The next day they were sexed and the per cent males, per cent males dead, per cent females dead, and per cent total dead taken for the houseflies only. Flies of other species amounted to less than one per cent and were not included in the calculations. The results of the tests are presented in Table I. For convenience, the averages of similar tests on reared flies are reproduced in Table II from a previous paper by Murray (2).

A consideration of the wild fly data alone brings out several interesting facts concerning wild flies. From the mortalities of the wild males and females for each day, it can be seen that there is but a small difference in sex susceptibility. In practically all cases, the male kill is but slightly greater than the corresponding female kill. It follows that the separate male and female mortalities are very closely related to the total mortalities. Hence, a study of the total dead in relation to various factors will yield all the information that would be obtained from a similar study using the male or female per cent kills.

If the per cent males of one farm is compared to the per cent males of the other for each week, it may be seen that though they are

Table I. Average sex ratios and percent mortalities of wild flies.

Farm I.

	Sex Ratio			Percent males dead			Percent females dead			Percent total dead		
Date Tested	No. flies	Percent females	Percent males	No. males	No. dead	Percent dead	No. females	No. dead	Percent dead	Total flies	Total dead	Percent dead
8/13	758	58.87	41.03	311	98	31.51	447	93	20.80	758	191	25.20
8/20	691	80.90	19.10	132	48	36.40	559	216	38.64	691	264	38.20
8/26	731	73.60	26.40	193	104	53.89	538	258	47.96	731	362	49.52
9/3	836	80.02	19.98	167	132	79.04	669	481	71.90	836	613	73.32
9/10	733	91.54	8.46	62	55	88.71	671	576	85.84	733	631	86.08
9/14	711	52.88	47.12	335	274	81.79	376	257	68.35	711	531	74.68
9/29	723	69.30	30.70	222	153	68.92	501	344	68.66	723	497	68.74
Farm Average	5,183	72.57	27.43	1,422	864	60.76	3,761	2,225	59.16	5,183	3,089	59.60

Farm II.

	Sex Ratio			Percent Males dead			Percent females dead			Percent total dead		
Date Tested	No. flies	Percent females	Percent males	No. males	No. dead	Percent dead	No. females	No. dead	Percent dead	Total flies	Total dead	Percent dead
8/13	745	67.52	32.48	242	79	32.64	503	130	25.84	745	209	28.05
8/20	791	70.04	29.96	237	145	61.18	554	346	62.45	791	491	62.07
8/26	653	81.78	18.22	119	72	60.50	534	237	44.38	653	309	47.32
9/3	755	73.51	26.49	200	152	76.00	555	358	64.50	755	510	67.55
9/10	715	74.13	25.87	185	152	82.16	530	375	70.75	715	527	73.71
9/14	666	47.75	52.25	348	242	69.54	318	183	57.55	666	425	63.81
9/29	655	56.79	43.21	283	209	73.85	372	213	57.26	655	422	64.42
Farm Average	4,980	67.59	32.41	1,614	1,051	65.12	3,366	1,842	54.72	4,980	2,893	58.09
Series Average	10,163	70.13	29.87	3,036	1,915	63.08	7,127	4,067	57.06	10,163	5,982	58.86

Table II. Average sex ratios and percent mortalities of laboratory reared flies.

	Sex Ratio			Percent males dead			Percent females dead			Percent total dead		
	No. flies	Percent females	Percent males	No. males	No. dead	Percent dead	No. females	No. dead	Percent dead	Total flies	Total dead	Percent dead
	11,689	50.15	49.85	5,827	3,697	63.45	5,862	404	6.89	11,689	4,101	35.08

not alike each week, they are related over a period of weeks. It is felt that further tests will indicate that when the sex ratio of flies gathered at one place in a certain vicinity fluctuates due to natural conditions over a period of weeks, the sex ratio of flies gathered from other places in the same vicinity will fluctuate similarily.

If one compares the per cent total dead of one farm with the per cent total dead of the other for each week, it can be seen that though they are not the same for each farm each week, they are beyond a doubt related over a period of weeks. Hence, this data indicates, if natural conditions in a particular vicinity give rise to fluctuations in the mortalities of flies at one place from week to week for several weeks, there will be similar fluctuations in the mortalities of flies of other places in the same vicinity over the same period of time.

In order to see if the fluctuations in sex ratio from week to week have any effect on corresponding per cent mortalities, the per cent males may be compared with total kills from week to week irrespective of farms. There is no indication from this data that any such relation exists; and the data indicate that outside influences which effect changes in sex ratios of wild flies over a period of weeks, effect no corresponding changes on their susceptibility to an insecticide. For further experimental work, therefore, one need only sample the flies from one place in a particular vicinity in order to study changes in wild fly susceptibility over a period of time.

In the contrast of wild and laboratory reared flies, the outstanding difference in per cents total dead can be mainly attributed to the extremely low susceptibility of the reared female flies. Where the reared female flies are eight times as resistant as the wild female flies, there is no appreciable difference in susceptibility of wild male and reared male flies. Further, it is indicated that where sex ratio greatly influences reared fly total kills, it has little to do with wild fly total kills. The circumstances of the susceptibility of the two sexes of wild flies being so similar, together with the fact that natural factors affecting sex ratio have no corresponding influence on susceptibility, add to make sex ratio of little consequence in the per cent total kill of wild flies. This is particularly interesting because it is in direct contrast to the situation for reared flies.

Because of the great difference in sex susceptibility of reared flies, the per cent total dead of Peet-Grady results fluctuates with the sex ratio; that is, the higher the percentage of males, the higher would be the per cent kill, and vice versa. However, in wild flies, due to the above reasons, the sex ratio has no effect on total kill. From a practical control standpoint, this is very reassuring news and should be passed on to the consumer who might believe from laboratory bred fly reports that liquid insecticides do not give satisfactory results on wild female flies.

It is convenient that the reared male fly susceptibility is nearly of the same order as that of total wild flies. Thus, tests on reared male flies may be used to some extent to obtain a general picture of the action of wild flies under similar conditions. This is an important consideration to keep in mind from a practical point of view. In this connection one should also remember that *optimum* conditions of testing, such as using paper on the floor of the testing chamber and a temperature of 80° F are used in the modified Peet-Grady Test. Also, *optimum* conditions of recovery are used,—such as a favorable high temperature and easily accessible food and moisture to the recovering flies. In tests on bred male and female flies in this laboratory, there were 100 per cent male mortalities and ninety-three per cent female mortalities in flies not given food during recovery while males and females that were fed gave sixty-eight and fifteen per cent kills respectively. Hence, one may well assume, that if under actual conditions of use enough spray of the toxic strength of the official control insecticide had been used to knock down all these wild flies, nearly 100 per cent would have been killed. This estimate agrees well with that of eighty-five per cent for wild flies cited by McDonnell (3) in his reference to the Food and Drug Administration tests described by Griffin (4). It should be noted that in the Food and Drug Administration tests, food was available to the flies during recovery.

Conclusions

1. The wild flies collected were more susceptible to a pyrethrum insecticide than reared flies.

2. This difference in susceptibility was due to the wild female flies being more susceptible than reared female flies.

3. Unlike reared fly tests, uneven numbers of males and females in these wild fly tests caused little variation in per cent total kills.

4. Over a period of time in this locality, successive samples of wild flies taken from two places exhibited similar changes in susceptibility.

5. This data indicates that Peet-Grady results are not directly comparable to results obtained under actual conditions of use.

References

(1) Anonymous. Soap, VIII, April, 1932.

(2) Murray, C. A. (1937), Soap, XIII, August 88.

(3) Anonymous. (1937), Soap, XIII, November 119.

(4) Griffin, E. L. (1937), Soap, XIII, January 98.

Rotenone Insecticide

A natural material containing rotenone such as derris root and linseed oil are subjected to distillation without boiling, at a pressure of about 10^{-2} to 10^{-6} mm. of mercury and a temperature of about 120°C. The condensing surfaces are close to the evaporating surfaces. A pale yellow waxy solid product is obtained which is suitable for insecticidal uses. Eric W. Fawcett. U. S. Patent No. 2,096,678.

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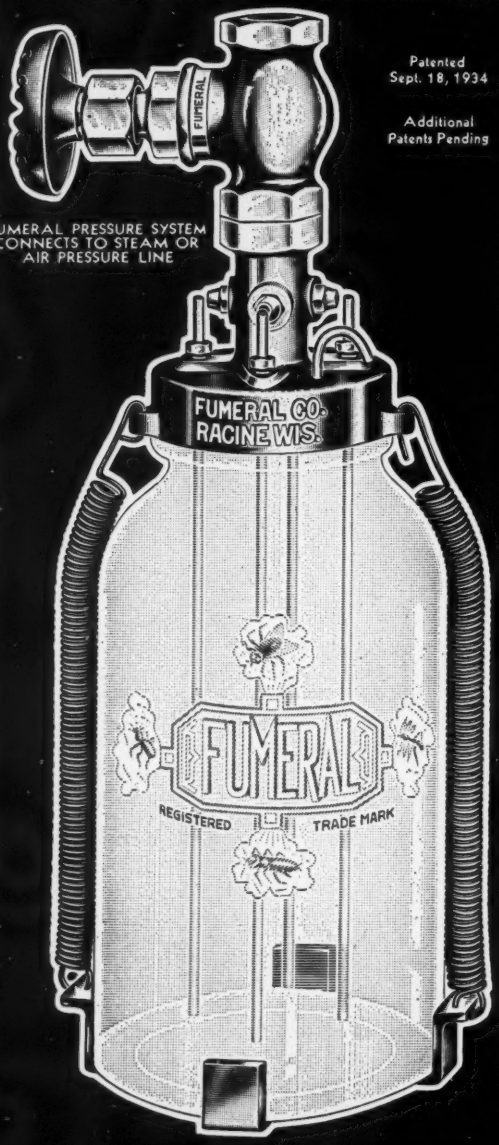
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The Buyer Writes an INSECTICIDE SPECIFICATION

By J. C. Booser

Harrisburg, Penna.

SMALL room for doubt exists that there is a very definite need for complete and satisfactory commercial standards of quality for liquid household insecticides. Such standards can do much to assure the consumer, mainly through authentic label statements, that effective and safe products, when used according to directions, are available. The large buyer, who has the means and who does evaluate his purchases, can also derive benefits from such standards, because the mere existence of standards has a tendency to raise and maintain the plane of quality throughout any industry. The entire subject is discussed here mainly from the buyer's point of view, but at the same time, with a full consideration of the manufacturer's position and his problems.

A specification to establish a standard of quality for fly sprays has been adopted by the National Association of Insecticide and Disinfectant Manufacturers, Inc. It is apparently the intent of the NAIDM to have it serve two purposes, first, to be the basis of a commercial standard; and secondly, to serve as a purchase specification to those buyers who use, or can advantageously use, the specification system in procuring this kind of a product.

Proceeding on this assumption, consider the second purpose only, since it is this particular angle that is of immediate interest to a large portion of buyers. In the discussion of this angle, it should be understood at the outset, that the matter is being approached in a friendly and constructive manner, and the writer believes that if the points raised herein are given earnest consideration it might be possible eventually to provide a generally acceptable *purchase* specification, realizing that none such exists now.

Furthermore, it must be fully realized that the problem is rather complicated as there are many factors which enter into the preparation of an adequate and workable specification, even when the specification is prepared for serving the needs of one particular buying unit only. It naturally follows therefore, that in trying to prepare a specification that will be generally acceptable to a large variety of buyers, and to manufacturers as well, the difficulties encountered will be greatly increased.

The first step is to analyze the market served by the insecticide industry with a view to learning more about the kinds of buyers who comprise this market. It is necessary to visualize at least in a general way their respective requirements as to quality of product, and the procedure they use in procuring, and testing, their insecticides. Although there are various ways in which the buyers could be grouped, it seems that to serve the purposes of this discussion, they can be considered in three large groups. The first group consists of those who buy in large quantity for their own use, such as, governmental units, large independently administrated hospitals and educational institutions, hotel chains and the larger independent hotels, big office buildings, and the larger industrial and transportation units. The second group are those who purchase for resale in large quantities, and this group includes, chain, and the larger privately owned stores, of every description, such as five and ten cent stores, drug, grocery, department and hardware establishments, and mail order houses. The third group would contain all small, isolated, governmental, professional, commercial, industrial and transportation units, and the householder.

Casual observation only is necessary to show that the third group cannot economically use a purchase specification unless they act through organized consumer groups. Even though they do organize in this manner, it appears that most of these groups, as well as the individual, at present rely to a great extent on the seller's description and claims, plus personal selection, and perhaps some rather crude tests of doubtful value. It is this class of buyer that will be immeasurably benefitted by the ultimate definite establishment of a commercial standard. This third group of buyers therefore will not be considered.

Turning now to the other two groups, there are buyers who can buy advantageously under specifications because of the large quantities and expenditures involved. They can economically test their purchases, and their needs are usually filled by the manufacturer direct. Examine the purchasing problems peculiar to the members of these two groups, especially as regards the standard of quality they require in an insecticide, and the procurement procedure they employ.

The first group is the one that purchases insecticide for its own use only, and embraces the following two

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distinct types of buyers; (a) governmental agencies, such as federal, state, county and municipal units, and also school districts, buying for the needs of the various using agencies under their jurisdiction; (b) nongovernmental, institutional, commercial, and industrial establishments. While both of these types have one thing in common, that is they buy for their own use, they differ materially in other important respects. For instance, type (a) buyer considers first of all effectiveness of the products available in order to protect the particular agency's wards from the common household pests, while type (b) buyer also gives equal consideration to this angle, and will in most cases stress the factors of character and persistence of odor, staining, tainting of food, more than the other buyer, because his organization must contend more directly with the whims and fancies of the general public to whom they cater. This difference will have a tendency to establish a somewhat higher standard of quality for the type (b) buyer.

Even more marked is the difference in purchase procedures. Type (a) is generally required by law or code to buy under a system of competitive bidding which procedure in many cases precludes any selection of responsible bidders. This is a most attractive field for the dishonest and so-called smart vendors, the latter offering products that are just sufficiently below the specified quality to give him an unfair bid price advantage over competitors, and in addition, provide the inspection and test division with many a headache. In contrast to this, type (b) buyer in most cases can establish a bidders' list satisfactory to his own needs, and judgment, and also has more latitude in the final acceptance and rejection of bids. Let it be understood at this point however, in case the thought has already occurred, that no matter how good the specification is, its effect is utterly destroyed by those two evils of good purchase procedure, political influence, and reciprocity, with which both of these types of buyers must contend to a greater or lesser extent.

The second group of large buyers, the retailing trade, can be treated as a whole. To this group, close competition, needs, buying habits, changing fancies of the general public, and attractive packaging all loom as problems when arriving at a satisfactory standard. Here again, the situation is relieved to some extent by a method of purchasing subject to considerable selective control on the part of the buyer. This group needs a specification which establishes about the same standard of quality as type (a) buyer, in the first group, with possibly more latitude in such factors as odor and packaging, so that individual judgment on the sales appeal angle can be exercised without restrictions.

IN proceeding with the specification for fly spray, each requirement that must be met by an insecticide of this type, can be discussed in order of their relative importance.

1. *Effectiveness*: The product when applied as a spray must be effective in controlling the common household insect pests such as house flies, mosquitoes, cockroaches, bed bugs, ants, silverfish, clothes moths, and carpet weevils. Authoritative data and a satisfactory method of test are available, which enables us to establish a complete and highly practical requirement on effectiveness insofar as control of the house fly, and possibly the mosquito, are concerned. Unfortunately, this is not true as regards the problem of controlling the other insect pests. There is a dearth of authentic data on this subject, and at the present time no approved method of test is available.

The NAIDM is sponsoring research work on crawling insects and some progress has been reported, but it appears that quite some time will elapse before anything definite and practical is developed. In the meantime, the question still confronts the buyer as to what course to take in purchasing this type of insecticide for the control of these so-called more resistant insect pests. The NAIDM for some reason, possibly this lack of authentic data, has in its specification, limited by means of a statement recently embodied therein, the use of this kind of insecticide to the control of house flies. Such action tends to aggravate, instead of helping to solve the problem for the buyer, particularly in view of the fact, that it is serious doubted whether the manufacturer will refrain from recommending his product for this kind of insect control.

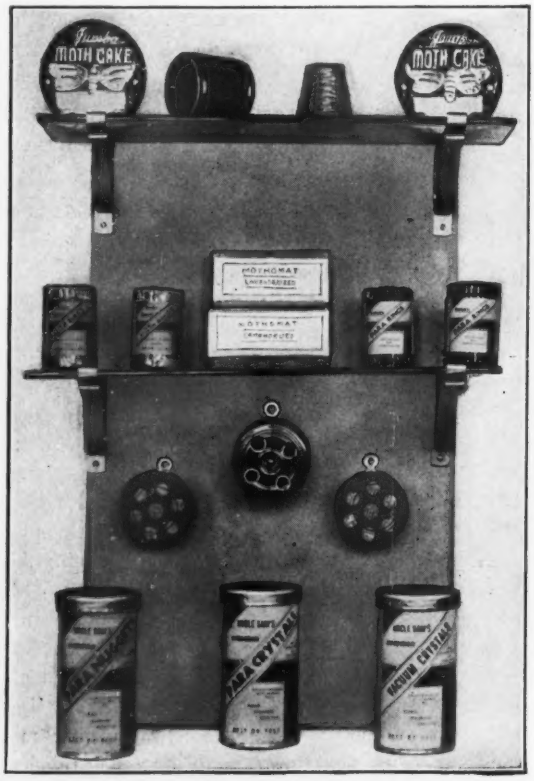
A situation such as this is often met with when drawing up commodity specifications, and the natural thing to do is to turn to that old standby, practical experience, and while it is fully realized that observation of results obtained by actual application of materials is oft-times subject to many variables which tend toward wrong conclusions, in many cases the information obtained is of sufficient value to furnish a rather fair and conclusive basis upon which to proceed in the absence of more specific information. It is upon this basis that a suitable effectiveness requirement in the specification that will enable the buyer to obtain a satisfactory product for the control of these more resistant insects, may be established.

Consider a specific example of a comparatively recent application of a requirement such as it is proposed to establish. In the early part of 1937 a large governmental unit planned to purchase the spray type insecticide for use in various institutions. It was highly desirable to obtain a product that would be effective in controlling practically all the insect pests previously mentioned, and a specification was written to facilitate this proposed purchase. When developing this specification, the question of effective control of insects other than house flies and mosquitoes was given quite some study, and as a result of practical demonstrations and discussion of the subject with some manufacturers in the insecticide industry, a requirement for effectiveness was fi-

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nally established. A minimum killing power of twenty (20) points above that of the 1936 Official Test Insecticide, when tested by the current Peet-Grady Method, was decided upon.

The product bought under this specification, and delivered to the various institutions, actually tested twenty-one (21) points over that of the Official Test Insecticide, and for the benefit of those readers accustomed to the old manner of expressing the killing power in percentage, this product run approximately eighty-six (86) per cent killing strength. After the material had been in use several months, the institutions were asked to report on actual performance. These reports revealed that eighty per cent of the institutions using this product found it to be satisfactory, while twenty per cent expressed varying degrees of dissatisfaction. After receiving these reports, it was decided to investigate the cases where dissatisfaction was claimed, and perhaps a rather humorous sidelight in connection with one of these claims might not be amiss.

In the particular case referred to, the using agency stated that the product was ineffective against roaches, and furthermore was so greasy that they were afraid to use it for fear of spoiling carpets, rugs, and other furnishings. At the same time, this agency asked permission to purchase a certain proprietary product of the same general type as the one purchased under specification. An investigation of this complaint disclosed the fact that the drum of material obtained under the specification had never been opened, and furthermore, the product about which the complaint was made turned out to be the very same proprietary item that the agency recommended for purchase. Needless to say, those persons investigating the matter were hastily assured that the complaint would be dropped, and the so-called unsatisfactory product, purchased under the specification, given a fair trial. In general however, it is believed that the reports were fair, and if any revision is in order, it would tend to raise the figure of eighty per cent, especially, since further investigation of those cases claiming the material unsatisfactory, disclosed at least two more instances where such claims were discredited. The writer considers the outcome of this purchase, and resultant survey to be valuable supporting evidence that the product, as specified, was found to be a satisfactory material for the purpose for which it was procured.

Perhaps it would be timely to state before proceeding, that no discredit is intended toward other types of insecticide recommended for control of the more resistant insect pests, as for instance, liquids applied as such, powders such as instance sodium fluoride, and other products that could be generally classed as specifics. The point that the writer desires to emphasize is that a liquid insecticide of relatively high killing power as evaluated by means of the Peet-Grady Method using the Official Test Insecticide for comparison, when applied in the proper manner as a spray, does have considerable merit for the control of insect pests that are considered more difficult to check than the house fly and mosquito, and due to this deserved merit, should be included in a specification for liquid household insecticide for spray application.

To revert now to the consideration of effectiveness against house flies and mosquitoes, the NAIDM has set up a valuable guide in their specification relative to this factor. The specification states that when a product is tested according to the Official Method in comparison with the Official Test Insecticide, it can be graded in effectiveness as follows:—A product testing sixteen or more points higher than the test insecticide is classed as being excellent; five to fifteen points above is good; while any product found to be equal to, or up to five points above, the Test Insecticide, is presumably fair to good, and is the lowest permissible grade that should be tolerated by a fair commercial standard.

As mentioned before, this is an excellent guide, and can be considered as being authentic. However, it is a guide only, and not the proper manner of expression for an effectiveness requirement in a specification. In some instances, so-called range requirements, stating minimum and maximum values, are desirable and even necessary in a specification, but in this case, minimum values only are called for. To illustrate, suppose a buyer wants to purchase some of the "good" grade insecticide, and he would specify a range of killing power of from five to fifteen points above that of the Official Test Insecticide. Under pressure of competition, how many vendors would bid on a product in the upper part of the specified range, especially if the buyer was compelled to make the award to the lowest bidder? The answer is obvious.

On the other hand, if this buyer decided that an insecticide low in this range would surely give him a good product, and he would consequently specify a minimum killing power of five points over that of the Official Test Insecticide, he would virtually be assured of receiving bids on the same quality of insecticide as under the previously stated case, and the bidders would have a fair and much more definite condition upon which to base their bid. The point is, that a minimum requirement will adequately serve the purpose, and avoid questions and misunderstandings on the part of the bidders. The maximum value in such a case is automatically controlled by the economic factor.

The next step is to arrive at the minimum value or values for effectiveness that will be generally acceptable, and it can be definitely stated that the conclusions drawn are strictly the result of personal observation, plus information gathered from reliable sources, and would naturally be subject to minor revision when considered by a group of competent persons. However, aside from such minor changes, it is believed that the minimums arrived at will serve their purpose very well indeed.

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NAIDM grades and the varied needs of the different groups and types of buyers, it is apparent that the first group who purchase for their own use, may or may not buy on price alone. For those in the first group, who do buy on price primarily, and for the retailer in the second group who must meet keen price competition, we must establish the lowest grade consistent with good commercial practice. This is generally conceded to be a product equal in effectiveness to the Official Test Insecticide. Therefore, this value will constitute the minimum killing strength for one grade of insecticide in the specification. It is not believed, however, that this grade provides the most effective product, if the factor of price be relegated to secondary consideration, which condition will apply to a portion of group one buyers, and to some retailers in the second group who will handle this better grade. So in order to satisfy their needs, it is believed that another grade, with a minimum killing strength of ten points above that of the Official Test Insecticide, would be a logical inclusion in the specification.

To substantiate further this last minimum value, there is again cited experience gained through the purchase referred to previously. In that particular specification, a minimum killing power of five points above the Test Insecticide was established for fly spray. The product received actually run about eight points above, and ninety per cent of the using agencies reported satisfactory results. This would certainly indicate very strongly that a minimum value of ten points above the Test Insecticide would provide a very effective fly spray. Incidentally, a fair cross-section of the using agencies reporting, would reveal a variety of uses, and critical attitudes on the part of the users, that would be comparable with those generally encountered in the insecticide market. It is believed therefore, that these two minimum values will establish two grades of fly spray, of proper effectiveness to met the demands of this entire market. In fact, if higher kill values are set up for a fly spray, the disturbing factor of effectively masking the unpleasant odor of greater amounts of the various insecticidal principles is encountered, and presents an additional problem.

To sum up, the specification at this point has provided the buyer with two types of liquid insecticide for spray application:—one type, including two grades, for the control of the house fly and the mosquito, the so-called fly sprays; and another type intended for use in controlling cockroaches, bed bugs and the other insect pests that are more difficult to control than the house fly.

2. *Safety Factors:* There are two such factors to be considered. First the product should be harmless to human beings and warm blooded animals when used as directed, and secondly, although of an inflammable nature, some precautions must and can be taken to reduce this hazard to at least a reasonable and practical degree.

First consider the establishment that will definitely assure the prospective buyer that the product will not harm human beings and warm blooded animals. It is highly impractical to attempt to devise a test that will measure the physiological effects of an insecticide that would be practical for the purpose of properly evaluating purchases of such material. Tests of this nature, due to their intricacies, are confined mostly to research work, and should remain there until such time as more simple and rapid methods are involved. Such a realization appears to be rather remote at this time. It is much easier, and far more practical, to control this factor of safety by confining the chief ingredients, such as, the insecticidal principle, and the base, to materials that on the basis of past research and actual experience in use, have been proven to be safe.

Naturally, this will raise a protest from some manufacturers who are interested in promoting materials other than those allowed, and, judging by recent patent reviews, there will be plenty of new materials, particularly insecticidal principles, forthcoming in the near future to complicate the present situation. Needless to say, adequate research should be made on all such materials, new or old, as regards the factor of physiological effects before placing them on the market. Even then, a potential hazard still remains, since the buyer must rely entirely upon the ability and integrity of the many manufacturers to provide a safe product. In short, until such time as a capable and responsible organization approves such materials, the wise buyer will insist that his specification limit the ingredients to those of known safety. It is unfortunate that this is the only way to effect a practical control on this safety factor, but it certainly involves too great a potential danger to simply state in a specification that the product shall be harmless, and let it go at that.

It is believed that mere mention, of the allowable ingredients for the insecticidal principle will be sufficient, since undesirable features, caused by indiscriminate use of some of these materials, can be eliminated by means of some of the other requirements in the specification. Also patented materials, or patented combinations of materials, need not be excluded if proper provision is made in the specification to protect the buyer from patent litigation, which can be done.

In view of this, the specification would contain a requirement to the effect that the material purchased thereunder is safe for use as a spray, and would in addition, name the permissible insecticidal principles and base. It is suggested that these permissible ingredients at present are pyrethrum and its extracts, rotenone and rotenone extracts, and certain accepted aliphatic thiocyanates, and petroleum distillate, of a definite grade, as the base. The odor masking agent is used in such relatively small amounts that it is deemed unnecessary definitely to restrict them. However, the insecticide manufacturer should get definite assurance from his source of supply to the effect that the materials he uses are safe. This also

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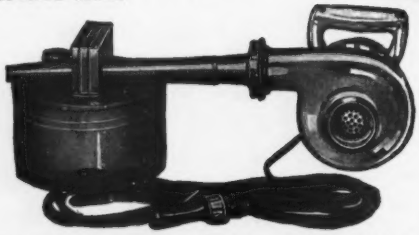


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applies to an organic solvent, when used. The buyer may, at his discretion, ask for an affidavit in connection with the safety factor of the odor masking agent and organic solvent as shown in one of the sections of the proposed specification presented later.

As to the other safety factor, namely the fire and explosion hazard, partial control can be effected by stipulating that the insecticide have a sufficiently high flash point. This plus attention-compelling labeling, to the effect that the product is inflammable and certain precautions must be observed to insure safe storage and use, represents that which can actually be attained in a specification for this type of insecticide.

3. *Staining Characteristics:* Obviously, a requirement should be included in the specification stipulating that the product shall not stain fabrics, wall paper, and other materials, and surfaces, commonly found in dwellings, offices, and other places where this kind of insecticide is used. There is no standard method of test available at present for this requirement, but it certainly should not be difficult to devise one that would be generally acceptable. If the specification is intended for widespread use, it would be highly desirable to have a common standard procedure of test, rather than leave it up to each buyer to work out one of his own.

4. *Corrosive Action:* A requirement stating that the material shall not corrode metals commonly encountered in its use, should be a part of the specification. The same comments as those made under the staining requirement apply.

5. *Odor:* This is perhaps the most intangible and elusive factor that we have to deal with. Without a doubt, the odor must be unobjectionable, in fact it should be pleasing to some degree, and in addition, it should dissipate after a reasonable length of time. As to the kind of odor masking agent used, the selection had best be left to the judgment of the insecticide manufacturer, because, in all probability he has given considerable time and thought to this factor. The buyer, however, should reserve the right to approve the product as regards odor before the award of purchase is made. This can be done through the medium of samples submitted with bids.

6. *Food Contamination*: It is highly desirable that fly sprays should not impart an odor or a taste to exposed foods, because, oft-times such a spray is used in a dining room just prior to meal time, when at least a portion of the food to be served has been placed on the tables in an exposed condition. It is believed that this stipulation can be met by the manufacturer without imposing any hardship, as proper selection of the odor masking agent, and correct directions for use of the product under these conditions will solve this problem. The last two mentioned factors are important because it is obvious that an insecticide cannot be sprayed directly on exposed food without imparting an odor or taste to it. This requirement also lends itself readily to a standard test procedure.

In the case of the stronger insect spray it is both impractical, and unnecessary, to stipulate that the product shall not contaminate exposed foods, first, because it is necessary to use more materials that require stronger odor masking agents, a condition that would probably make it very difficult for a manufacturer to make a product to mee the requirement, and secondly, this kind of insecticide is intended primarily for use in unoccupied rooms, or rooms that can be emptied of the occupants for a period of about one hour, or thereabouts, and some precautions taken to protect exposed foods, such as, fruits, vegetables, baked goods, and other items that are not packed. For this type of insecticide, the requirement should be that it must not contaminate packaged foods. This concludes the discussion of general requirements and considerations. Other features, including the detailed consideration of the specification itself, will be taken up in the next issue.

(To be concluded in next issue)

Pyrethrin I in Insecticides

The Seil method for the determination of pyrethrin I in mineral oil insecticides is not satisfactory, as the monocarboxylic acid is not completely recovered by the usual steam distillation. Also acidic substances other than the carboxylic acid will be titrated as this acid. Wilcoxon's method can be modified so as to apply to the determination of pyrethrin I in many commercial insecticides. The modified method has been used on mineral oil sprays containing pyrethrum extract, essential oils, perfumes, derris extract, and organic thiocyanates,—and in the analysis of plant sprays containing essential oils, derris resins, soaps and other spreaders, tobacco extract, alcohol or acetone. The method depends on the reduction of Deniges' reagent by the monocarboxylic acid, precipitation of the reduced mercury as calomel, removal of unsaturated organic compounds with acetone and chloroform, and determination of the reduced mercury by titration with iodate solution. The monocarboxylic acid is separated from the dicarboxylic acid by extraction with petroleum ether, in which the second acid is only slightly soluble.

The method is as follows: Measure a sample containing 20-75 mg. of pyrethrin I into a 300-cc. Erlenmeyer flask; add 15 cc. of 0.5 *N* alcoholic sodium hydroxide solution and reflux for 1 to 1.5 hours. More sodium hydroxide may be necessary in samples containing large amounts of perfumes or essential oils. Transfer to a 600-cc. beaker and add sufficient water to bring the aqueous layer to 200 cc. Add a few glass beads, or preferably use a boiling tube, and boil the aqueous layer down to 150 cc. Transfer the aqueous layer to a 250-cc. volumetric flask and add 1 gram of filter-cel and 10 cc. of a 10 per cent barium chloride solution. Dilute to volume and let settle, adding more barium chloride if needed for clarification. Filter off 200 cc., add 5 cc. of 1:4 sulfuric acid, filter into a 500-cc. separatory funnel, and extract with two 50-cc.

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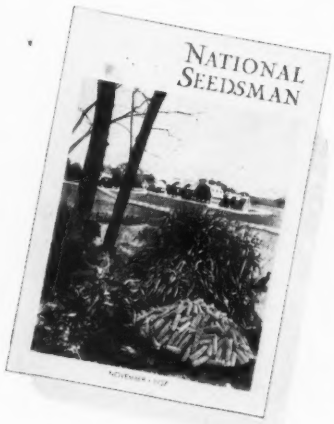
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NATIONAL SEEDSMAN reaches 5000 retail seed stores, catalog seedsmen and leading wholesalers. It is the merchandising paper of the seed industry. Your advertising message in this publication takes the shortest route to the people who **resell** your merchandise. Write for sample copy and rates.

•

National Seedsman Publications

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portions of petroleum ether. Wash the extracts with several 10-cc. portions of water and filter through a plug of cotton into a clean 250-cc. separatory funnel. Wash the cotton with 5 cc. of petroleum ether. Extract the petroleum ether with 5 cc. of 0.1 *N* sodium hydroxide solution, shaking vigorously.

Draw off the water layer into a 100-cc. beaker, wash the petroleum ether with 5 cc. of water, and add this to the beaker. Add 10 cc. of Deniges' reagent (U.S.P. XI) to the beaker and let stand 1 hour. Add 20 cc. of acetone and precipitate the reduced mercury with 3 cc. of saturated salt solution. Warm to about 60°C., filter through a small filter paper and wash with 10 cc. of hot acetone, transferring all the precipitate to the filter paper. Wash with two 10-cc. portions of hot chloroform, and place the filter paper and contents in a 250-cc. glass-stoppered flask. Add 30 cc. of concentrated hydrochloric acid and 20 cc. of water, cool, and add 6 cc. of chloroform or carbon tetrachloride and 1 cc. of iodine monochloride solution made by dissolving 10 grams of potassium iodide and 6.44 grams of potassium iodate in 75 cc. of water. Add 75 cc. of hydrochloric acid and 5 cc. of chloroform and adjust to a faint iodine color (in chloroform) by adding dilute potassium iodide or potassium iodate solution. Titrate with 0.01 *M* iodate solution. This contains 2.14 grams of potassium iodate per liter. The endpoint is the disappearance of the red color from the chloroform layer. The endpoint is not permanent, so that the titration should be completed rapidly, with vigorous shaking after each addition of iodate. One cc. of iodate is equivalent to 4.4 mg. of pyrethrin I. D. A. Holaday. *Ind. Eng. Chem.*, Anal. Ed. **10,** 5-6 (1938).

—— ♦ ——

Extraction of Rotenone

Extraction of rotenone from finely powdered samples of derris and cube roots is complete by treatment with chloroform at room temperature. This is followed by removal of an aliquot of the filtered extract. The fineness of the sample is exceedingly important in obtaining complete extraction. Coarse samples should be ground so that at least 95 per cent passes a 60-mesh sieve.

Samples containing a high ratio of rotenone to total extractives were found to be more difficult to extract than those with lower percentages of rotenone. When the ratio of rotenone to total extract was 40 per cent or over, it was necessary to employ extraction at room temperature with successive lots of chloroform. In general cube roots are more readily extracted for rotenone than derris roots. Preliminary drying is unnecessary with either kind of root. Howard A. Jones and J. J. T. Graham. *Ind. Eng. Chem.*, Anal. Ed. **10,** 19-23 (1938).

—— ♦ ——

Disinfectants and Deodorants

(*From Page* 105)

leate as a base. The linoleate, and likewise the stearate of trihydroxyethanolamine form solid jellies with essential oils, fats, waxes, etc. which are very readily soluble in water to form milky emulsions. Blocks of this type are, of course, rather more expensive to produce than the rosin soap blocks, but they are more rapidly dispersed, especially in hard and salt waters.

Another cheap type of soluble block which is, however, not so satisfactory, is made by incorporating pine oil into a suitable concentration of gelatine, pouring out into shallow trays and allowing to set before cutting up as required. These blocks are used for hanging in toilets by means of a wire attachment and the flush of water dissolves the tablet gradually, acting as a deodorant.

A pine block for hanging in confined spaces, which gradually volatilizes, is of course quite well known. Such a block is usually based on naphthalene or paradichlorbenzene as the slowly volatile constituent. The pine oil, either alone or compounded with creosote oil, bornyl acetate, Russian turpentine, etc. is melted together with the naphthalene, and the material is cast into moulds. A disadvantage of these blocks is, however, that the naphthalene or para may mask the odor of the pine oil. For this reason attempts have been made to impregnate blocks of porous material such as Kieselguhr compositions or fiber with essential oils in such a way as will permit of steady volatilization. A compound of this description might consist, for example, of pine oil together with small quantities of formalin, thyme oil and bergamot oil dissolved in isopropyl alcohol. One London building service concern uses a system whereby fibrous blocks are regularly collected and replaced by freshly impregnated ones.

Telephone mouthpiece disinfectants generally make use of finer pine oils as one of their main antiseptic ingredients. A typical procedure is to incorporate pine needle oil with small amounts of eucalyptus, lemon, and juniper oils together with a quantity of tincture of benzoin. The whole is then dissolved in alcohol and is ready for use. Alternatively, the mixture of oils may be emulsified by the addition of a small amount of gum tragacanth, and mixing in vigorously with water.

In the field of disinfectants and deodorants, the search for new uses, new markets, and new products to meet the public fancy continues. The public acceptance of disinfectants with strong coal tar odors is not what it was some years back. To some extent, this accounts for the growing popularity of pine and hypochlorite products, both for disinfectant and deodorizing purposes. Nevertheless, the United Kingdom and the British Colonies still comprise a large market for the older, time-tested disinfectant products, and these still represent the backbone of the business. But the opinion appears to prevail that where new uses and expansion in the general use of disinfectants is to come, it will come with the popularizing of new and improved products, and not from any material permanent increase in the sale of the older disinfectant types.

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Oil Soluble Non-Poisonous

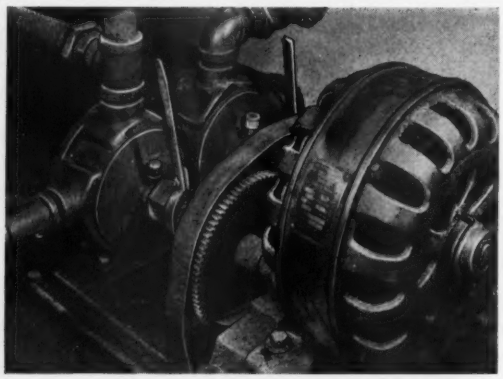
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PRODUCTS, Inc.
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Say You Saw It in Soap!

THE average business house receives a great many inquiries for its products or services every year which cannot be attributed to any special source. A vast majority of these probably originate from some form of advertising but, due to the general tendency toward not mentioning the names of publications, cannot be directly traced.

When you write to anyone advertising in this publication, say you saw it in SOAP. The advertiser will appreciate it—and so will we!

The Publishers

News.....

New Wisconsin Specifications

The State of Wisconsin has just drawn up new tentative specifications for a number of products in the insecticide line. These include liquid household insecticide, liquid livestock spray, liquid insecticide for crawling insects, pyrethrum-fluoride insect powder, insect powder (non-poisonous), and powdered and liquid extract of red squills. Basic contracts have been signed with several companies for the supply of these materials and all state institutions have been asked to use the approved products. A bulletin issued recently by F. X. Ritger, director of purchases, directs that before any state institutions renew present contracts for insecticides or exterminating services that they get in touch with his office.

G-E to War on Moths

General Electric Co., Schenectady, N. Y., has announced plans for a moth prevention campaign this spring, with consumer advertising in 22 national magazines and several Sunday newspaper supplements. The advertising will advocate use of G-E electric cleaners for spraying upholstered furniture, rugs and fabrics with "Larvex," moth-proofing preparation made by Zonite Products Corp., New Brunswick, N. J.

Fewer Brands—More Sales

Gary Seed Store, Gary, Ind., in announcing removal to larger quarters in that city, reports that since it has reduced its stock of insecticides "to only a few carefully selected brands," four times the volume of business has been done.

New Insect Booklet

"Insect Problems in the Home" is the title of a revised booklet recently issued by the Agricultural Experiment Station at Purdue University, Lafayette, Ind. The booklet, which is a revision of Circular No. 150, was compiled by Dr. J. J. Davis, head of the Division of Entomology, and covers 24 pages on the common household insects, including their habits and control. It contains illustrations of the various forms of the household insects, including termites. The booklet has been compiled particularly with a view to the insects problems encountered within the state of Indiana.

Wants American Disinfectants

A concern in Santurce, Puerto Rico, is interested in establishing an agency arrangement for sale of disinfectants and liquid soaps. Interested parties may secure further particulars through the U. S. Bureau of Foreign and Domestic Commerce, Washington, inquiry No. 5408.

MGK Adds Grysting

Karl Grysting recently became a member of the sales staff of McLaughlin Gormley King Co., Minneapolis. He will service jobbers and seedsmen in Illinois, Indiana, Ohio, Michigan and Wisconsin, specializing in the sale of the company's "Ever Green Garden Spray," "Multicide," and "Selocide." Mr. Grysting formerly conducted a seed business of his own in the South.

McCormick Author of New Book

Charles P. McCormick, president, McCormick & Co., Baltimore, is the author of a new book recently published by Harper Brothers, called "Multiple Management." Mr. McCormick, who has long been known for his active interest in new and effective methods of management in business and industry, has written a detailed account of a plan of executive management initiated by his company in 1932. He traces the growth of the plan which began with the organization of a junior board of directors to work in collaboration with the regular board, and which has since branched out to include a factory executives' board and a sales executives' board. Mr. McCormick recalls that it was the statement by a well-known psychologist, that the average business man utilizes only about half of his mental capacity, which contributed to his original idea. The objective was to find a way to stimulate McCormick executives to apply as much of their mental capacity as possible to the management of the concern. That the multiple management plan as practiced by McCormick & Co. has produced and is producing constructive ideas, evidence in abundance is supplied by the contents of "Multiple Management." It will find many readers among those who want to keep up with the latest developments in company management policies.

Repackage "Cyanogas"

American Cyanamid & Chemical Corp., New York, has recently introduced a new two-color illustrated display carton for its fumigant, "Cyanogas." The illustrations show the various uses of the product in the field of insect control.

Recall Termite Bulletin

A bulletin dealing with termite control service, issued recently by the National Better Business Bureau, Chrysler Building, New York, has been recalled by the bureau following many complaints from firms in the exterminating industry and the filing of a formal protest by the National Pest Control Association. The office of the National Better Business Bureau advises that in view of the suggestions made the bulletin will be completely redrafted and issued in revised form at a later date.

Central Mfg. Co. Moves

Central Mfg. Co., sanitary supplies, formerly at 219 Fifth St., Conemaugh, Pa., has moved to 507 South Main St., that city.

B. B. Products Co. Moves

B. B. Products Co., sanitary supplies, formerly at 5530 North Penn St., Indianapolis, has moved to 117 East South St., that city.

Buckingham

WAXES AND POLISHES

PACKED UNDER YOUR OWN LABEL

(We Furnish The Label)

- WATERPROOF NO RUBBING LIQUID WAX
- PREPARED PASTE WAX
- LIQUID WAX (polishing type)
- POWDERED DANCE WAX
- PIGMENTED WAXES (in colors)
- WHITE EMULSION FURNITURE POLISH
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COMMERCIAL OLIVE OIL

OLIVE OIL FOOTS

RED OIL (Oleic Acid)

TEASEED OIL

MUSTARD OIL

We invite your inquiries regarding the above products

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Established 1867

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THE KEY TO YOUR *Germicidal Problems*

COMPARE THESE SPECIFICATIONS:

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2. Phenol co-efficient of 6. (E Typhi) (Hy. Lab.)
3. Low surface tension — NO PRECIPITATION.
4. Unaffected by light, age, heat or cold.
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10. Therapeutically efficient.
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A Definite Selling Advantage FOR FACIAL CREAMS and OTHER COSMETICS FOR DRUG STORE ITEMS SUCH AS COLLODION, LANOLIN, ALL SOAPS, VAGINAL JELLIES, SULPHONATED OILS

Give your product an antiseptic plus . . . a "something extra" . . . with KOVAM.

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VICTORIA manufactures a complete line of cabinet and roll tissues.







You are in a position to meet price competition with trade-marked, nationally known products. Write today for complete information.

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VICTORIA PAPER MILLS COMPANY

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Drug Administration Rules on Derris and Cube Labels

OFFICIAL regulations governing the labeling of derris and cube powders and other rotenone - bearing insecticides have just been issued by the Food and Drug Administration, U. S. Department of Agriculture, Washington. The new regulations provide that in making label statements as to ingredients contained in insecticides of this type, the entire portion of the derris or cube root which is soluble in ethyl ether may be designated as an active ingredient. On the point of toxicity, the regulations prohibit use of label statements that cube or derris insecticides are non-poisonous. The full draft of the new regulations is given as follows:

Labeling of Derris and Cube Powders and Other Rotenone-Bearing Insecticides

Insecticides are subject to the provisions of the Federal Insecticide Act if shipped, or offered for shipment, in interstate commerce, or imported into or exported from the United States, or marketed in the District of Columbia or the Territories. This act requires that if any article subject to it consists in part of an inert ingredient or ingredients, that is, any ingredient which does not in itself prevent, destroy, repel, or mitigate insects, its label must bear a plain and correct statement of the names and percentage amounts of each and every one of such inert ingredients, or, in lieu of this, a plain and correct statement giving the names and percentage amounts of each and every active ingredient, together with the *total* percentage of the inert ingredients. The act also provides that the labeling of products within its purview shall not bear any statement, design or device regarding such article or the ingredients or substances contained therein which shall be false or misleading in any particular.

Derris Root Powder and Cube Root Powder

INGREDIENT STATEMENT: Derris root powder and cube root powder are inherently insecticides. Derris contains as active ingredients rotenone and certain other compounds, such as toxicarol, tephrosin, and deguelin, and cube contains, in addition to rotenone, tephrosin and deguelin, as well as others. In the absence of practical methods for determining the percentages of these constituents, other than rotenone, and since all of these active ingredients are soluble in ethyl ether, no objection has been raised to considering all of that portion of the root which is soluble in ethyl ether as active and designating it "derris resins" or "cube resins," as the case may be. The root fiber which is not soluble in ethyl ether is inert. For derris root powder, the following form of ingredient statement, which should appear upon the front or main panel of the label, is acceptable:

ACTIVE INGREDIENT	
Derris resins	——%
INERT INGREDIENTS	——%
TOTAL	100%

the correct values being inserted in the blank spaces where indicated. A similar form of statement may be used for cube root powder, substituting the percentage of cube resins for that of derris resins. It does not fulfill the requirements of the law to state "Derris and/or cube resins," since a statement of this character does not definitely specify the active ingredient.

ROTENONE: In enforcing the Insecticide Act, the Administration has not required that the percentage of rotenone be stated on the label of derris root powder or cube root powder. However, owing to the trade practice of selling on the basis of rotenone content, manufacturers frequently desire to make such a statement on their labels and no objection is raised to this procedure, provided the value given is correct. It should be in terms of percentage of pure rotenone and not "Crude rotenone," which contains considerable amounts of impurities. The following forms of ingredient statement may be used:

For derris powder:

ACTIVE INGREDIENTS	
Rotenone	——%
Other Derris Resins	——%
INERT INGREDIENTS	——%
TOTAL	100%

For cube powder:

ACTIVE INGREDIENTS	
Rotenone	——%
Other Cube Resins	——%
INERT INGREDIENTS	——%
TOTAL	100%

the correct values being inserted in the blank spaces where indicated.

(Rotenone is determined by the method of the Association of Official Agricultural Chemists, which is published in the Journal of the Association of Official Agricultural Chemists, Volume 21, page 148, 1938.)

EFFICACY CLAIMS: All efficacy claims should be strictly limited to the particular varieties of insects for which the product is an effective control when used as directed. Broad claims such as unqualified refences to "Insects," "Plant Pests," or "Garden Insects" are unjustified and should not be used.

In most cases a single treatment with the product will not be an effective control for a particular insect since reinfestation may immediately occur from eggs or other sources. In such cases, the directions should provide for repeating the treatments as often as necessary.

TOXICITY: The active ingredients of derris root and cube root powder are poisonous to man and other animals. Therefore claims that products containing them are non-poisonous or harmless are unwarranted.

Derris and cube preparations are frequently recommended in place of arsenical or fluorine-containing insecticides for use on fruits or vegetables which may be eaten without discarding the portions containing their residues. It is true that the residue left by derris or cube preparations is less dangerous than that left by arsenicals or fluorides, but we know of no scientific evidence proving that derris or cube residues are entirely non-injurious, particularly under conditions where substances bearing them may be consumed regularly for considerable periods of time.

TIMBO AND BARBASCO: At the present time, methods for differentiation between cube roots and similar roots which may be imported under the name "timbo" or "barbasco" have not been worked out. Therefore no objection has been raised to considering all of these closely related products as cube roots.

Plant Sprays or Dusts Containing Derris or Cube Powder, or Extracts of Derris or Cube, Along With Other Ingredients

The derris resins or cube resins in these preparations (together with any other active ingredients present) are considered active. Their labeling is subject to the same general rules as indicated above for derris and cube root powder. In view of the many different combinations encountered in such products, it is impossible to give any method for their analysis that will be applicable in all cases. Variations must be adopted



Question---

What concern manufactures

1. **NO RUBBING WATERPROOF Liquid Wax that dries in twenty minutes to a shine and can be rebuffed.**
2. **PASTE, LIQUID or SLIPRUF wax that gives a durable beautiful finish.**
3. **PIGMENT wax in colors (Red, Green, Brown, Buff, Black, Grey).**
4. **STAIN wax in Oak, Walnut, etc.**



Also in bulk or under private label.

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ALL GRADES

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HIGH BOILING TAR ACIDS

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MIRVALE CHEMICAL CO., Ltd.
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"MOPCO"
65%

Boiled Down
COTTON SEED
SOAP

MURRAY
OIL PRODUCTS CO.
INCORPORATED
21 WEST ST., NEW YORK

depending upon the nature of the mixture.

Derris or Cube for Use on Pets

These, and preparations containing them, are frequently recommended for fleas and lice on dogs and cats. For fleas application is usually made to the neck and back of dogs; for lice, to the entire body of the animal. In both cases, the directions should provide for repeating the applications as often as may be necessary. Since fleas develop in the sleeping quarters, the directions should provide that the animals' quarters or other infested places, be thoroughly cleaned and treated.

As indicated above, derris and cube products are poisonous and should not be referred to as "Non-Poisonous" or "Non-Injurious." Since animals lick their coats, poisoning may result from a powder worked into the hair. In general, injury will not occur, but some animals appear to be affected by such preparations. Accordingly, such products recommended for dusting the coats of animals should not be labeled as "Non-poisonous when used as directed."

◆

Prentiss Circular

R. J. Prentiss & Co., New York, have issued a folder describing the modifications which have been made in the Peet-Grady test for insecticides since it was first adopted as a standard by the National Association of Insecticide and Disinfectant Manufacturers in 1932. The circular also describes the rating for liquid household insecticides which was revised at the December meeting of the Association. Copies available on request.

◆

West Coast PCA Conference

A conference of Pacific Coast pest control operators, similar to the one recently held at Purdue University, will be held at Stanford University, Palo Alto, Calif., March 28 to 31.

◆

Publish Pest Control Article

This Week, magazine section of the New York Herald-Tribune contained an article about pest control entitled "Unmentionables," in the issue of Feb. 6.

◆

Capt. Church Dies

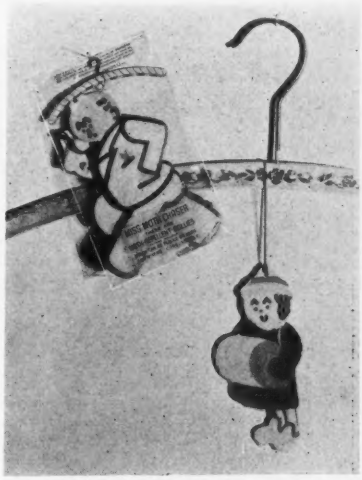
Capt. Albert Henry Church, vice-president and managing director of No-Kap Closures, Inc., of Providence, R. I., and London, England, died in London on Jan. 17. He was 76 years of age.

COMING!

A practical study of moth preparations . . . floor wax specifications, what should they include? . . . janitor supplies,—what should be told and not told . . . sanitation and disinfection by railroads, dairies, theatres, etc.,—a series . . . these include a few of the feature articles which will appear in early issues of *Soap*. Watch for them!

Offer Novelty Moth Product

A moth repellent doll novelty, recently introduced on the American market by Langreen Co., New York, has been selected as one of the ten outstanding 5 and 10 cent packages of 1937 by the judging committee of the *Syndicate Store Merchandiser*. Offered under the name "Miss Moth Chaser," the doll is a flat cut-out coated with a moth-repellent preparation. It has a string at the top for hanger use. Packed three in a cellophane envelope, the moth dollies retail at ten cents a package. Patent has been applied for. Sale will be through department, variety, hardware and drug stores. Langreen Co. is a relatively new concern in the United States, having been operating in New York less than a year. The proprietors are Julius Landauer and Miss Joan Greenbaum, who formerly operated a chemical specialty business at Frankfort-on-Main, Germany.



Julius Landauer



Miss Joan Greenbaum



Ertel Expands Facilities

Ertel Engineering Corp., New York, has enlarged its manufacturing space to double the former facilities. At the same time, the office and showroom space has been increased. The firm's address, 120 East 16th Street, remains the same.

◆

"Fumeral" Literature

Fumeral Co., Racine, Wis., manufacturer of "Fumeral," diffuser for insecticides, deodorants, disinfectants, and fumigants, is distributing new descriptive literature to the trade. Copies are available to readers of *Soap* on request.

◆

KESSCOCIDE 95

ALPHA NAPHTHYL ISO-THIOCYANATE

A NEW SYNTHETIC INSECTICIDE

COLORLESS SOLUTIONS

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NON STAINING

INQUIRIES SOLICITED

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A new floor wax

for the janitor supply
and jobbing trades which is

waterproof

and which gives a

high gloss

ZIP-ON WAX

Dries very bright and becomes water resistant as soon as dry. Wax content guaranteed 100% Carnauba. Supplied in bulk, or with your label in any size container.

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NEWEST IDEAS IN POWDER DUSTERS

Every model in Lowell's complete line of "tested merit" dusters is so perfect mechanically that even mixed dusts are discharged WITHOUT SEPARATION in a fine cloud exactly as compounded. Only the best in materials and workmanship go into the manufacture of these dusters which are backed by a name that has stood for top quality in sprayers and dusters for many years.



LOWELL GUARD DUSTER
Container 1½ x 3¼
Pump 1½ x 7
Lithographed tin



LOWELL GENERAL DUSTER
Container 3½ x 3½
Pump 1½ x 10, 1-12" Extension
Lithographed tin

SEND FOR LATEST CATALOG

LOWELL MANUFACTURING CO.

North Pier Terminal, Opp. Navy Pier, Chicago

CHICAGO, ILL. LOWELL, MICH.

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Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of $2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap.* It ★★★ will place you in touch with the entire soap and sanitary products industry.

Sees Insecticide Losses

PREDICTING heavy losses for insecticide manufacturers during 1938 as a result of lower prices being quoted this year by leading manufacturers, a well-known authority who refuses to permit his name to be used, states that the makers of low-grade products have brought the present price troubles down upon the head of the industry. He also blames the leaders of the industry who make the better known brands for not doing something about these cheap, low-grade products long before the present. He had the following to say:

"The insecticide industry has always been plagued by small manufacturers who made products of low quality to sell at low prices. The insecticide buying public apparently seems to be impressed far more with the immediate knock-down than with the final kill. Unfortunately, products have been marketed that have a kill lower than the Official Test Insecticide but which have a fairly high quick knock-down.

"This particular combination of circumstances enabled a certain manufacturer to gain a great portion of the country's insecticide gallonage with a product of lower kill strength than the O.T.I. but with a fairly rapid knock-down, principally through chain syndicates, who retailed the product at 10c in 6-oz. cans and 20c in 1-pt. cans.

"This progress was made as a result of the quality-minded manufacturers doing little or nothing concerning the fact that the spread between cost and retail prices had been too great, and the public were receiving more apparent value for their money in the 20c a pint product than in the 50c a pint product. Had the leaders in the industry realized these facts and done something about it, they could have greatly increased the sales of their product at a 35c a pint basis and have made it far more difficult for the low-quality, low-price manufacturers to have made the sales progress they did.

"Finally, with the poorer products exceeding in gallonage sales the sales of manufacturers with widely advertised names and higher quality, the quality manufacturers decided on a policy deadly to the industry of reducing prices to a point that competes with the low-quality products. This in turn has resulted in the necessity of some other quality manufacturers reducing their prices to such a point that will make the sale of their products not only unprofitable but may eventually lead to severe losses. This is the condition faced by the insecticide industry at the present time, and it now looks like the survival of those best able to absorb yearly losses up to hundreds of thousands of dollars over the next year or two."

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California PCA Convenes

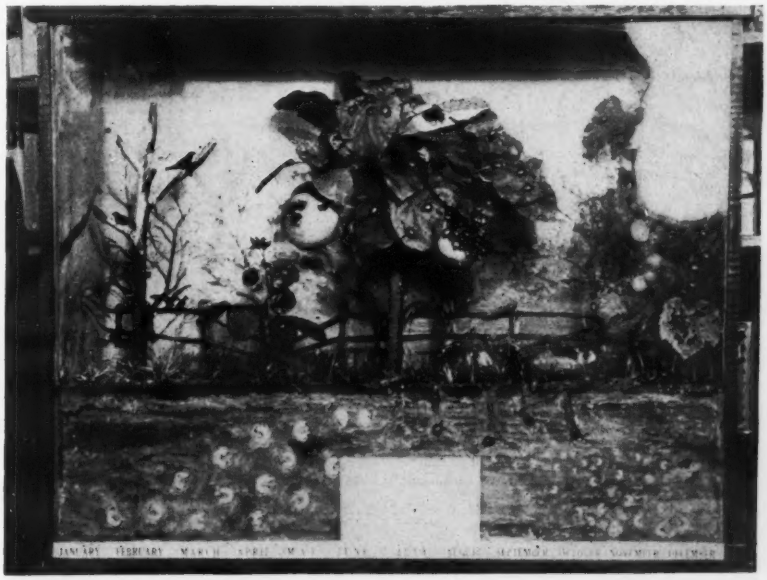
The fourth annual convention of the California Pest Control Association was held February 11 and 12 in Santa Barbara, Calif. Those attending the two-day session heard a series of talks on rodents, termites, fumigation, legislation, salesmanship and advertising. In addition there were a series of clinics dealing with problems of eliminating infestations of various types. At the conclusion of the meeting officers were elected for the coming year as follows: President, Lee W. Christensen, L. W. Christensen Co., San Diego, who succeeds the retiring president, George A. Rader; 1st vice-president, Wallace B. Tanner, California Termite Control Co., Los Angeles; 2nd vice-president, Ernest Mills, Pacific Exterminator Co., San Francisco; and treasurer, Robert Hackley, Robert Hackley Co., Palo Alto.

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Mrs. Ungerer Dies

Mrs. Adele Bogert Ungerer, wife of Frederick H. Ungerer, president of Ungerer & Co., New York, died suddenly at their home in Essex Fells, N. J. on Saturday, Feb. 26. In addition to her husband, Mrs. Ungerer is survived by her daughter, Mrs. Kenneth G. Voorhees. Funeral on March 1, and burial was also in Westfield.

McCormick & Co., Baltimore, are using a Japanese Beetle Display as a sales promotion feature in connection with the sale of their "Red Arrow" garden spray. One of the displays is currently being shown at the well-known New York seed store of Peter Henderson's.



NAPHTHENIC SOAPS
NAPHTHENIC ACID SLUDGES

(Mineral Oil Residues)

"Flag Brand" White Mineral Oils - - - U.S.P. and Technical

Specifications upon request

S. Schwabacher & Co., Inc.

25 Beaver Street **New York**

F. & S.

Quality Colors
for
TOILET SOAPS
LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N Y.
Import—Manufacture—Export

SPECIAL PERFUMES FOR SPECIAL SOAPS

Our Research Laboratories have devoted considerable attention to the perfuming of Antiseptic, Sulfur, Superfatted and other Special Soaps

Your inquiries solicited.

COMPAGNIE PARENTO, Inc.
CROTON-ON-HUDSON, N. Y.
NEW YORK CITY DETROIT CHICAGO
LOS ANGELES SAN FRANCISCO
SEATTLE PORTLAND, ORE. TORONTO

The HOLZ-EM SOLVES the PROBLEM



of convenient and proper application of floor waxes, seals and varnishes. You can be sure that your products are being used correctly by selling or recommending the **HOLZ-EM WAX APPLICATOR** and **SPREADER** to do the job. Designed by experts, made of the best materials, the **HOLZ-EM** will help build your list of satisfied customers just as it has done for others who are already familiar with the product.

We manufacture a complete line of wool applicators, cotton dust mops and cotton wet mops. For prices and samples write

AMERICAN STANDARD MFG. CO.
2509-13 South Green Street **Chicago, Ill.**

Adopt Fumigating License Fee

William J. Wolfson, manager of Syracuse Victory Soap Corp., Syracuse, N. Y., disinfectants, fumigants and soap products, tried unsuccessfully recently to prevent the passing of a new city ordinance providing for the regulatory licensing at $50 a year of all fumigating companies operating in that city. Mr. Wolfson argued that the old ordinance which had been in effect since 1930, which required that the fire department be notified of the hours of fumigation of each place and warning signs posted, was adequate, and that a $50 license fee would work great hardship. He said that under the proposed new ordinance, anyone applying for a license could have one if the $50 fee was paid. Its advocates replied that the purpose was not to obtain revenue, but to regulate "a dangerous business, with the fee intended simply to pay the cost of supervision." After referring the proposed ordinance back to the committee on public safety and licenses, it was finally passed by the city council at a subsequent meeting. In addition to the Syracuse Victory Soap Corporation, two other disinfectant and fumigant firms in Syracuse are affected by the new ordinance.

WPA to Stop Rodent Control

J. C. Mehaffey, executive assistant to the chief engineer of the Works Progress Administration at Washington, has announced that no further projects for rodent control in cities will be undertaken by the WPA. All projects under way at the present time will be discontinued upon exhaustion of the funds now authorized.

Reports Insecticide Carrier

Agicide Laboratories, Milwaukee, in a recent report pointed out that walnut shell flour made an excellent carrier for insecticides and fungicides. It is capable of absorbing 140 per cent of its own weight, the report states, and its dispersing power is not impaired at 40 per cent absorption of water. It weighs only 29 lbs. per cubic foot and the particles do not cling together, but disperse uniformly and adhere securely to plants. In addition, since it is slightly acid, walnut shell flour cannot harm calyx, buds and other delicate plant life.

Experiments with Castor Bean

Dr. L. M. Christensen of the Chemical Foundation, Atchison, Kan., reports that in experimental plantings made there last year, it was found that grasshoppers were strongly attracted by castor bean plants, and that a very high percentage of the pests subsequently died. The plants also seemed to provide protection against chinch bugs and birds. In a sorghum field the losses from grasshoppers, chinch bugs and birds were up to 95 per cent except at one side of the field where there was a strip of castor beans. Adjacent to this strip, losses ranged from nil to 35 per cent. The smaller bean *Ricinus Cambodgensis* was more effective than the larger, *R. Zanzibariensis*, the report states. It will be thoroughly tested this year to determine whether or not a natural insecticide has been found.

Opens Southern Office

Haas-Miller Corp., industrial chemicals, oils and greases, Philadelphia, recently announced the appointment of Walter G. Leon, as southern representative. Mr. Leon will open up an office at Charlotte, North Carolina.

J. G. Wallace Co. Moves

J. G. Wallace Co., janitors' supplies, formerly at 524 West Brentwood Avenue, Detroit, has moved to 634 East State Street, that city.

Ackley Joins M. M. & R.

Magnus, Mabee & Reynard, Inc., New York, essential oil house, announced recently that W. D. Ackley, formerly with Parke, Davis & Co., Detroit, has joined their sales staff. Mr. Ackley will take over the New England territory. He replaces Ralph Barlow, who has been transferred to another territory.

Chicago PCA Fetes Buettner

W. O. Buettner, secretary of the National Pest Control Association, was the guest of honor at an informal dinner at the Medinah Club, February 7th in Chicago. Mr. Buettner, who was introduced by W. B. McCloud, regional vice-president of the national association, spoke briefly regarding the problems confronting the entire industry as well as some which are of a sectional nature only. Mr. Buettner's stay in Chicago was a short one because he was en route to a number of other important centers on work for the national association. Thirty Chicago firms were represented at the dinner.

Explains 'Multiple Management'

Charles P. McCormick, president of McCormick & Co., Baltimore, and author of "Multiple Management," gave an explanation of its functions and of how the system worked in his own plant, at a testimonial luncheon tendered him by a group of economists and manufacturers at the Waldorf-Astoria Hotel, New York, Feb. 25.

Addresses Chi. Chemical Group

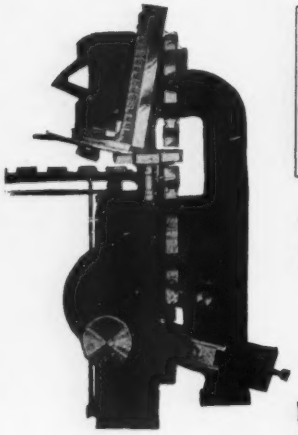
Dr. James Lawson, Pastor of the First Methodist Church of Hammond, Indiana, was guest speaker at the February 24th meeting of the Chicago Drug and Chemical Association held at the Chicago Athletic Association. Dr. Lawson talked on the subject, "Where Is America Headed." It has been decided that the Secretary's office will act as a clearing house for members who are seeking employment or employees. This new service is for members only and will be handled in a confidential manner.

Oscar Smith Dies

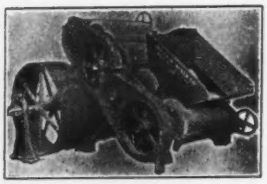
Oscar William Smith, head of Parke, Davis & Co., Detroit, pharmaceuticals, died on Feb. 7 at Palm Beach, Fla. He was 67 years of age.

Franklin Exterminating Co., formerly at 1073 East Main St., Columbus, Ohio, has moved to 640 East Main St., that city.

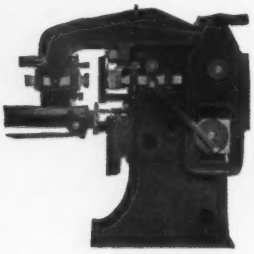
Special Offerings of SOAP MACHINERY *Completely Rebuilt!*



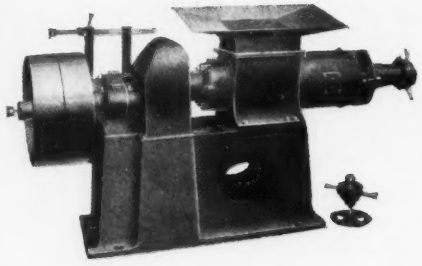
Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.



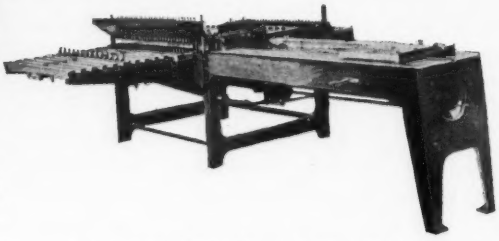
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

NEW CRUTCHERS!



This Newman brand new, all steel steam jacketed soap crutcher. Will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap in addition to other new soap machinery such as frames, cutting tables, etc. Send for complete list.

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
Ralston Automatic Soap Presses.
Scouring Soap Presses.
Empire State, Dopp & Crosby Foot Presses.
2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
H-A 4 and 5 roll Steel Mills.
H-A Automatic and Hand-Power slabbers.
Proctor & Schwartz Bar Soap Dryers.
Blanchard No. 10-A and No. 14 Soap Power Mills.
J. H. Day Jaw Soap Crusher.
H-A 6, 8 and 10 inch Single Screw Plodders.
Allbright-Nell 10 inch Plodders.
Filling and Weighing Machine for Flakes, Powders. etc.
Steel Soap frames, all sizes.
Steam Jacketed Soap Remelters.
Automatic Soap Wrapping Machines.
Glycerin Evaporators, Pumps.
Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
Perrin 18 inch Filter Press with Jacketed Plates.
Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
Day Grinding and Sifting Machinery.
Schultz-O'Neill Mills.
Day Pony Mixers.
Gardiner Sifter and Mixer.
Proctor & Schwartz large roll Soap Chip Dryers complete.
Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
Day Talcum Powder Mixers.
All types and sizes—Tanks and Kettles.
Ralston and H. A. Automatic Cutting Tables.
Soap Dies for Foot and Automatic Presses.
Broughton Soap Powder Mixers.
Williams Crutcher and Pulverizer.
National Filling and Weighing Machines.

Send us a list of your surplus equipment—
we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 W. 35th St.
CHICAGO

Our Forty Years Soap Experience Can Help Solve Your Problems

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Expert Soapmaker and Chemist, can make all kinds of soap. Also knows the rendering business. Address Box No. 376, care *Soap*.

Young Men—Two young men seeking positions, one (30 yrs. old) a graduate chemical engineer, the other a high school graduate (21 yrs. old) with chemical and drug store experience. Further details from the Editor of *Soap*. Will do any type of work to break into new position.

Chemical Engineer, 36, specialized in soap for the last twelve years, here and abroad, wishes new connection. Has thorough knowledge of all angles of toilet and laundry soap manufacture, soap perfuming, toilet preparations. Can install and run plant with maximum efficiency. Highest references as chemist, superintendent. Willing to go anywhere. Address Box No. 365, care *Soap*.

Chemist—With fifteen years' experience in soaps and perfuming materials with large soap manufacturing organization desires to make new connection. Wide experience and finest references. Address Box No. 362, care *Soap*.

Positions Open

Chemist—Man wanted who has had experience in floor waxes, polishes, and other wax products for connection with research in manufacturing organization. Give full details, experience and salary. Box No. 361, care *Soap*.

A Prominent Manufacturer of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 377, care *Soap*.

Rebuilt Soap Machinery

overhauled at our Newark Plant—the largest and best equipped of its kind—with thoroughly experienced personnel of thirty-five men.

4—Steel Wool Mfg. Machines, complete.
3—F. & H. Soap Wrapping Machines, electric glue sealers.
1—Jones automatic Soap Press.
2—Pneumatic Scale Co. Carton Packaging Units.
1—Proctor & Schwartz Soap Chip Dryer, steel frame, 72" Apron, with 4-roll P. & S. Mill.

1—Package Machy. Co. Soap Wrapping Machine.
2—Ferguson Carton Wax Wrapping Machines.
1—Dopp 1500 lb. Vertical Jacketed Crutcher.
1—P. & S. 5-roll, watercooled Mill.
2—Broughton 1200-1500 lb. Soap Powder Mixers.
2—Rutchmann 4-roll Inclined Granite Mills, 18"x24".
4—Houchin Soap Plodders, 8" and 10".
2—Soap Foot Presses.
4—Houchin 4 and 6-Knife Chippers, 20".
1—Houchin 1200 lb. Power Slabber.
1—Houchin 2-way Soap Cutting Table.
2—Blanchard 10A Mills.
10—Taber Soap Pumps, 3½" to 1½".

Miscellaneous—Filter Presses and Filters, Amalgamators, Soap Frames, Kettles, Mixers, Pony Mixers, Powder Fillers, Labellers, Wrapping Machines, Tanks, Pumps, Boilers, etc.

Send for Latest Bulletin

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW — NEW YORK, N. Y.
BArclay 7-0600 — Cable Address: Equipment
We buy your idle Machinery—Send us a list.

FOR SALE

1—Anderson No. 1 Motor Driven Expeller, with Tempering Apparatus, Screw Feeder, Foots Elevator, Etc.

REBUILT SPECIAL OFFERINGS

1—Proctor Soap Chip Dryer.
2—Soap Boiling Kettles, 10 & 20,000 lbs. capacities.
1—Ralston Automatic Soap Press.
1—Jones Automatic Pin Die Press.
1—Automatic Soap Wrapping Machine.
1—2-way Soap Cutting Table.
1—Soap Grinder.
4—600 lb. Soap Frames.
20—1200 lb. Soap Frames.
2—4 Roll Granite Stone Mills, motor driven.
4—Filter Presses — Lab. to 36" Square.
3—Jacketed Vertical Crutchers up to 3600 lb. capacity.
2—Vertical Steel Jacketed 3000 lb. Kettles.
6—Glass Lined Kettles, 50 to 3000 Gals.
1—Soap Slabber.
2—Houchin - Aiken Empire State Foot Presses.
4—Plodders, 6"—8"—10".
2—Steel 3 Roll Mills.

Hydraulic Presses, Pumps, etc.

Send for Bulletin No. 101 giving full listings.

We Buy Your Surplus Equipment for Cash, From Single Items to Complete Plants.

STEIN EQUIPMENT CORP.
426 BROOME STREET — **NEW YORK, N. Y.**
Phone: CAnal 6-8147 — **Cable Address "MACHEQUIP"**

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 138, for page numbers, *"Say you saw it in SOAP."*

ALKALIES

John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Solvay Sales Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc.
Baird & McGuire, Inc.
Buckingham Wax Corp.
Candy & Co.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Exterminating Materials Co.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Koppers Co.
Kranich Soap Co.
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Shawmut Specialty Co.
Sweeping Compound Mnfrs. of N. Y.
Uncle Sam Chemical Co.
T. F. Washburn Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
Carbide & Carbon Chemicals Corp.
John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
H. H. Rosenthal Co.
E. M. Sergeant Pulp & Chem. Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)
American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans, Steel Pails)
Anchor Cap & Closure Corp. (Closures & Bottles)
Capstan Glass Co. (Bottles)
Continental Can Co. (Tin Cans)
Hazel-Atlas Glass Co. (Bottles and Jars)
National Can Co. (Cans)
Salem Glass Works (Bottles)
Sutherland Paper Co. (Packages)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

INSECTICIDES, SYNTHETIC

Kessler Chemical Co.
Rohm & Haas Co.

(*Continued on page* 136)

Wanted: Distributors: Supply salesmen add new profit-per-call with Liqui-Glove—quick-dry cream, keeps dirt and stain from sticking to hands. Excl. Territory. Liqui-Glove Co., Clayton, N. M.

Wanted: Salesman to sell NON POISONOUS guaranteed roach powder. Liberal commission. Also jobbers. Address Box No. 379, care *Soap*.

Salesmen Wanted: finest soaps, cleaners, polishes, waxes, disinfectants, deodorants; reliable manufacturer for sixty years. Prompt liberal commission. Address Baum's Castorine Co., Rome, N. Y.

Toilet Soap Manufacturer, producing attractive popular priced line, can place two or three good salesmen on liberal weekly commission basis. Side line or full time. Write fully giving experience, references, and territory preferred. Address Box No. 374, care *Soap*.

Miscellaneous

For Sale: One 8-inch Heavy Duty Clyde Extruder with feed worms delivering to auger, water jacketed, gear drive, $250.00. Bird & Son, Inc., 1472 West 76th Street, Chicago, Ill.

Two new outstanding formulaes for sale, (Aluminum and Furniture polish). Write for sample and all information. Address Box No. 381, care *Soap*.

Degreasing Compound. Complete instructions for manufacture of this new and popular specialty are available from a competent chemist at a reasonable cost. Address Box No. 378, care *Soap*.

No-Rubbing Wax—No Radio Programs—No Ballyhoo. The best wax you ever saw at amazingly low prices. Samples submitted. Twi-Laq Chemical Co., 221 Sullivan St., Bklyn., N. Y.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Wanted: Manufacturer is in position to purchase assets and equipment of a going business manufacturing chemical specialties and sanitary products with a total volume up to $100,000 a year. Give details, location, approximate price, etc., in reply to Box No. 371, care *Soap*.

Sanitary Products—Well-established organization, manufacturing and selling sanitary specialties, will sell part interest in business to man with good sales record in sanitary products. Must stand careful investigation. Cash investment required. Business located on Eastern seaboard. All correspondence in confidence. Address Box No. 363, care *Soap*.

YOUR OWN BRAND Toilet Soaps at Small Cost

For Details Address

GEO. A. SCHMIDT CO.
INCORPORATED
Manufacturers of SOAPS *of Every Description*
236-238 West North Avenue
Chicago.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. New York City
Cable Address: "Pylamco"

Raw Material and Equipment Guide

(*Continued from page* 134)

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MACHINERY

Ertel Engineering Corp. (Filters, Mixers, Bottle Fillers)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Stokes & Smith Co. (Packing Machinery)
Viking Pump Co. (Pumps)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein Equipment Corp.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)
Anchor Cap & Closure Corp. (Metal Caps)
Archer-Daniels-Midland Co. (Vitamin F)
T. G. Cooper & Co. (Waxes)
Dicalite Co. (Insecticide Carrier, Filtering Materials, Abrasives)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
Exterminating Materials Co. (Exterminators' Supplies)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Koppers Company (Coal, Coke, Roofing Materials)
Kovam Co. (Germicidal Reinforcer)
N. I. Malmstrom & Co. (Lanolin)
Pylam Products Co. (Lathering Agent)
S. Schwabacher & Co. (Naphthenic Soaps, White Mineral Oils)
Victoria Paper Mills Co. (Paper Accessories)

OILS AND FATS

T. G. Cooper & Co.
Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leghorn Trading Co.
Michel Export Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
E. M. Sergeant Pulp & Chem. Co.
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Corp.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
O'Connor & Kremp
Pennsylvania Refining Co.
S. Schwabacher & Co.
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.
H. H. Rosenthal Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Clifton Chemical Co.
Fuld Bros.

SODIUM SILICATE

E. I. du Pont de Nemours & Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Fumeral Co.
Hudson Mfg. Co.
Lowell Manufacturing Co.
Mystic Products Co.
Universal Metal Prods. Co.

TRI SODIUM PHOSPHATE

John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
Monsanto Chemical Works
H. H. Rosenthal Co.
Warner Chemical Co.

Professional Directory

PEASE LABORATORIES, Inc.
Chemists, Bacteriologists, Sanitarians
39 West 38th Street
New York
Food, Drug and Cosmetic Problems—Compliance with Official Requirements—Meeting New and Anticipated Competitions with Improved and New Products

H. A. SEIL, Ph.D E. B. PUTT, Ph.C., B.Sc.
SEIL, PUTT & RUSBY, INC.
Analytical and Consulting Chemists
Specialists in the Analysis of Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations
ESSENTIAL OILS SOAP
16 East 34th Street, New York, N. Y.

STILLWELL AND GLADDING, Inc.
Analytical and Consulting Chemists
Members Association of
Consulting Chemists and Chemical Engineers
130 Cedar Street New York City

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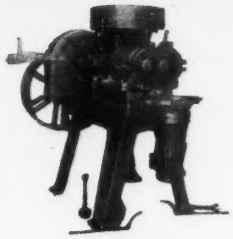
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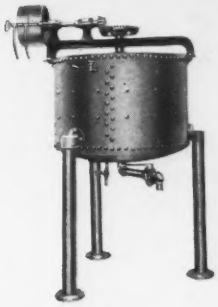
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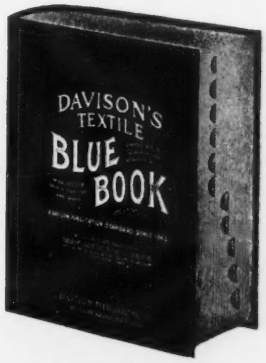
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DON'T SHOOT....

unless you know what you are shooting at! Blazing away at the spot where the rabbit sat last week is just a waste of good ammunition. Advertising to a group of buyers who were buying last year,—but are at present hibernating,—is just about the same thing.

¶ While business in many fields is down fifty per cent,—in some even more,—activity in soap, sanitary chemicals, and allied products is around 90% of the 1937 peak.

¶ Now isn't it good horse sense to concentrate more of your advertising in a field *where* business is active and *when* it is active?

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Tale Ends

EVERY now and then, we hear of a salesman who has cheated a whole series of employers one after the other before his crooked dealings are made public. This has not been uncommon in the janitor supply and sanitary products trades, owing probably to the type of salesmen which some houses employ. The reason why some firms hate to divulge the fact that they have been victimized, is a puzzle. We honestly believe that some of them like to see their competitors get a dose of the same medicine. The spot-light of publicity is the best way to drive these crooks out of any trade, for once they are known, they are through.

* * *

Mere mention of "little business" and its pilgrimage to Washington last month is still cause for wide grins. Everybody wanted to talk at once,—and did. They carried signs like pickets at a lunchroom strike,—and generally made monkeys of themselves, these "little business men." And they also made monkeys of some of the Administration officials who conceived and carried through the idea. Shades of P. T. Barnum!

* * *

Incidentally, is your subscription to SOAP due for renewal about now? Did you receive a notice? If so, don't delay sending in that check. Because the 1938 SOAP BLUE BOOK (new and bigger and better than ever) will soon be off the press,—and, if your subscription is not paid up,—zowie, no free BLUE BOOK for you. Send in that renewal check today!

* * *

Pyrethrum prices are up in the clouds again. Prices for small-package liquid insecticides are at the lowest point in some years. And the boys of the F. D. A. in Washington seem to be all set to crack down on sub-quality products this season. Seems like the insecticide trade is right square between the devil and the deep blue sea.

